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An Attempt to Demonstrate a Labile Antigen in *Br. abortus*

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Whatever may be one's personal view as to the advisability of vaccinating cattle with living *Br. abortus* organisms it is difficult to avoid the conclusion that such vaccination is in general a more efficient means of lowering the abortion rate than vaccination with dead organisms. Without quoting the very extensive literature in full, reference may be made to articles by Stockman (1914), Gminder (1919), Hart and Carpenter (1924), and Smith and Little (1926) in support of these beliefs. This difference in immunising ability between living and dead organisms may be due to one or more possible causes; one of the most obvious is that there is an antigenic difference between living and dead organisms, and it is an investigation of this possibility which forms the subject matter of this paper.

The antigenic structure of Brucella organisms has been studied widely. Prior to 1932 the majority of the work was open to the criticism that the strains examined were not shown to be pure S variants. In 1932, Pandit and Wilson (1932) evolved a simple technique for testing whether suspensions were rough or smooth and later Wilson and Miles (1932), working with smooth strains, demonstrated that each of the three species of Brucella contained the same two antigens, but in different amounts; delicate quantitative absorption tests were necessary to demonstrate the differences. Veazie and Meyer (1936) have recently confirmed this finding. This work, and indeed all that to date, has been confined to the heat-stable somatic antigens.

Quite recently a heat-labile antigen, termed the *Vi* antigen, was discovered by Felix and Pitt (1934, a, b, 1936) in the Salmonella group, and it has been shown (Felix, Bhatnagar and Pitt, 1934, Felix and Bhatnagar, 1935, Felix and Pitt, 1935) that this antigen is actively concerned in immunity. A labile capsular antigen has also been demonstrated around *Past. pestis* (Schütze, 1932, 1934) and *Past. septica* (Priestley, 1937, a, b) and again it was shown that these antigens are actively concerned in immunity.

It may be stated at the outset that all attempts to show the presence of a labile antigen in *Br. abortus* have failed. It has been considered worth while to publish this finding as having a bearing on the general problem of immunisation against *Br. abortus* infection.

It may be noted, in passing, that Schilling and Blecker (1927) could find no difference in the agglutinability of living and dead organisms, and that Veazie and Meyer (1936) found no difference in the ability of living and dead organisms to absorb agglutinins.

Throughout this work the general procedure has been to absorb sera with heavy doses of dead organisms in such a way that all somatic antibody is just removed and then to test the absorbed sera for residual antibody combining with any antigen peculiar to the living organism.

Morphological Observations

Br. abortus has never been described as a capsulated organism (see, for example, Duncan and Whitby, 1929) but it was considered worth while to examine organisms by the Indian ink method as used by Rowlands (1914), Manninger (1919), Schütze (1923a) and Priestley (1937). Accordingly, loopfuls of 1, 2, 3, 4 and 5 day growths of virulent and avirulent *Br. abortus* were suspended in saline or distilled water, mixed with Indian ink and examined in a cover-slip preparation. No capsule could be demonstrated although virulent *Past. septica* organisms examined at the same time always showed marked capsulation.

Brucella organisms are generally regarded as non-motile, although Gordon (1899) described flagella in cultures of *Br. melitensis* and Colquhoun and Kirkpatrick (1932) using a special technique reported evidence of motility. As far as the writer is aware, these observations have never been confirmed, and no attempt was made to use their methods here. Broth cultures of *Br. abortus* have, however, been examined on many occasions and no motility has ever been observed. In view of the finding (Kossel and Overbeck, 1901,

Arkwright, 1927) that *Past. pseudotuberculosis* was motile when grown at room temperature or at about 20° C., and non-motile when grown at 37° C., broth cultures of *Br. abortus* were examined after growth for various times at 18 to 20° C.; again no motility was observed. These were just precautionary measures since it is already established that the flagellar antigen of an organism is of relatively little importance in immunity (see, however, the recent work of Henderson, 1937).

Preparation of Immune Sera

Sera against living and dead organisms were prepared in cattle, sheep, rabbits and guinea-pigs. The strains employed were all of the bovine variety of *Br. abortus*, but included aerobic and CO_2 sensitive, virulent and avirulent strains. It is perhaps worthy of note that one of these strains was that used by McEwen and Roberts (1936), in their vaccination studies. The organisms were generally grown for two days before inoculation. Those to be used in the dead state were killed by heat at 100° C. for at least one hour. One dose of living or three or four of dead organisms generally sufficed to produce a serum of sufficiently high titre; very high titres were not sought as this often leads to loss of specificity. The organisms were inoculated intravenously, intraperitoneally or subcutaneously.

On the assumption that some hapten might escape from the living organism *in vivo* and neutralise any antibody present, blood was taken from animals at various intervals after inoculation commencing at one week and sometimes extending to many weeks after the infection had disappeared from other animals inoculated at the same time.

The serum was generally used fresh, but when stored was preserved over chloroform in the ice-chest. Occasionally phenol was used in a final concentration of 0·5 per cent.

Absorption of Sera

Absorption tests were done in a variety of ways. Serum was mixed with heavy suspensions and incubated at 0° C., 20° C., 37° C., or 56° C., and at combinations of these. In general it was the practice to incubate at 37° C. for one to two hours and then leave in the ice-chest overnight before centrifuging. The dead organisms used for absorption were killed at 100° C. for one to two hours, and cultural controls were always negative.

Preparation of Suspensions

Throughout, growths were suspended in 0·85 per cent. saline, without preservatives. Suspensions were prepared from organisms grown for 1, 2, 3, 4 or 5 days at room temperature or at 37° C. Generally the organisms were grown on liver agar, but occasionally blood agar or Fildes's agar was used. As a rule, very thin suspensions were used; this was an obvious necessity since if thick suspensions had been used antibody present in small amounts might have been missed. Moreover, more accurate end points can be established with thin suspensions when the tests are in the hands of a single worker.

Technique of the Tests

In general, 0·5 c.c. volumes of the various serum dilutions were mixed with 0·5 c.c. volumes of suspension, but these amounts have been varied according to circumstances. The tests were incubated at room temperature, 37° C. or 56° C., and readings were taken at various intervals up to 72 hours.

The Action of Certain Disinfectants

In view of the fact that the organisms in many vaccines are killed by disinfectants and not by heat, it was considered advisable to conclude this work by examining for the presence of a disinfectant—labile antigen. Accordingly suspensions were drastically treated with phenol and formalin (phenol in a final concentration of 5·0 per cent. for four days at 0° C., and formalin in a final dilution of 1 in 2 under the same conditions) and used for the absorption of sera prepared against living organisms. In no case was anything other than somatic antigen revealed.

Finally, an attempt was made to demonstrate a labile antigen by a method similar to that outlined by Felix and Pitt (1936). These workers showed that Salmonella organisms treated with HCl lost their *Vi* antigen, whereas the O antigen remained unimpaired. Suspensions of *Br. abortus* were, therefore, treated with 10 per cent. HCl for three days at room temperature; they were then centrifuged and washed repeatedly and used for absorption. It was shown that sera from which the O antibody had been removed by absorption with such suspensions, failed to agglutinate living organisms.

Summary

All attempts to demonstrate the presence of a labile antigen in *Br. abortus* have failed. It is concluded, therefore, that the difference in the immunising ability between living and dead organisms is not due to any difference in antigenic structure.

References

Arkwright, J. A. (1927.) *Lancet.* i. 13.

Colquhoun, D. B., and Kirkpatrick, J. (1932.) *J. Path. and Bact.* 35. 367.

Duncan, J. T., and Whitby, L. E. H. (1929.) M.R.C. *System of Bacteriology.* 5. 386. H.M. Stationery Office.

Felix, A., and Bhatnagar, S. S. (1935.) *Brit. J. Exp. Path.* 16. 422.

Felix, A., Bhatnagar, S. S., and Pitt, R. M. (1934.) *Ibid.* 15. 346.

Felix, A., and Pitt, R. M. (1934a.) *J. Path. and Bact.* 38. 409.
Felix, A., and Pitt, R. M. (1934b.) *Lancet.* ii. 186.
Felix, A., and Pitt, R. M. (1935.) *J. Hygiene.* 35. 428.
Felix, A., and Pitt, R. M. (1936.) *Brit. J. Exp. Path.* 17. 81.
Gordon, M. H. (1899.) *Lancet.* i. 688.
Gminder, A. (1919.) *Berl. tierärztl. Wschr.* 35. 163.
Hart, G. H., and Carpenter, C. M. (1924.) *J. Am. Vet. Med. Assoc.* 64. 37.
Henderson, D. W. (1937.) *Brit. J. Exp. Path.* 18. 224.
Kossel and Overbeck (1901.) *Arb. a. d. k. Gsudhtsamt.* 18. 119.
Manninger, R. (1919.) *Z. Bakt.* Abt. I. Orig. 83. 520.
McEwen, A. D., and Roberts, R. S. (1936.) *J. Comp. Path. and Therap.* 49. 97.
Pandit, S. R., and Wilson, G. S. (1932.) *J. Hygiene.* 32. 45.
Priestley, F. W. (1937a.) *Brit. J. Exp. Path.* 17. 374.
Priestley, F. W. (1937b.) *J. Comp. Path. and Therap.* 49. 340.
Rowlands, S. (1914.) *J. Hygiene.* 13. Supp. p. 418.
Schilling, S. J., and Blecker, W. L. (1927.) *J. Inf. Dis.* 41. 222.
Schütze, H. (1932.) *Brit. J. Exp. Path.* 13. 284, 289, 293.
Schütze, H. (1934.) *Ibid.* 15. 200.
Smith, Th., and Little, R. B. (1926.) *J. Exp. Med.* 43. 327.
Stockman, S. (1914.) *J. Comp. Path. and Therap.* 27. 237.
Veazie, L., and Meyer, K. F. (1936.) *J. Inf. Dis.* 58. 280.
Wilson, G. S., and Miles, A. A. (1932.) *Brit. J. Exp. Path.* 13. 1.

ABATTOIR CENTRES

In a few weeks' time the Livestock Commissioners will announce the sites of the three national centres at which experimental abattoirs —for which a grant of £250,000 will be available —will be established. Most of the major municipalities in Great Britain are interested but it is the intention of the Commission to have two centres serving large consuming districts and one in a large producing area. The chances are that the latter will be in the north-east of Scotland.

There is likely to be keen competition between Yorkshire and Lancashire for one of the northern centres, while Cardiff or Bristol are strong candidates for the southern area.

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SAFEGUARDING SYDNEY'S MILK

After July 1st, 1938, it will be an offence for any person to sell raw milk in the Sydney and Newcastle milk distributing districts of New South Wales unless it has been produced from a herd, or herds, tested to the satisfaction of the Chief Veterinary Surgeon of the State Department of Agriculture. Certificates of registration of any dairyman retailing raw milk in the districts named will be cancelled if his herd has not been certified as tubercle-free before June 30th, 1938, and may be cancelled thereafter if he fails to keep his herd free from tuberculosis and to maintain it to the satisfaction of the Department's Chief Veterinary Surgeon.

Some Reasons Why the E. B. McLean Racehorses Headed the List of Money Winners in 1928*

Dr. Robert Lee Humphrey
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On July 1st, 1926, at the invitation of the owner of Belmont Plantations, Leesburg, Virginia, I took charge, for a two-year period, of his farm which was devoted entirely to breeding race-horses. These horses were raced by their owner and breeder who raced no others. Although he had spent considerable sums of money to secure good breeding stock and although no expense was spared in training these horses, the results had been disappointing. For the ten-year period ending in 1926, the stable had won an annual average of $36,364. While this figure may seem fairly substantial, it was not in keeping with the number of horses bred and trained.

The owner was inclined to put a large share of the blame on his two stallions which had been extensively used. Colin had been unbeaten as a race-horse, winning the most important stakes of his day, but as a stallion was generally regarded as a pronounced failure. The owner warned me that the other stallion, The Porter, was also a failure.

The trainer added that all the colts by The Porter would break down in training before they could be got ready in a thorough way for racing. They suffered, he said, from bad legs and soft joints.

After hearing a good deal about how bad the horses were, I went to the farm for a thorough inspection. At first glance it was apparent that this farm was lacking in sufficient grass to carry the number of horses quartered there. However, on the whole, the physical condition of the colts looked satisfactory. Their coats were bright and they were fat.

Looking for a clue as to where to start, I took blood samples from various colts which were the produce of a cross-section of the mares —that is, from maiden mares, from mares having had a few foals and from old mares having had many foals. These blood samples were sent to the biochemical laboratories at Johns Hopkins University, Baltimore, Md., for analysis. The report came back that all these animals, without exception, were badly deficient in calcium and phosphorus. Here was a clue worth following, pointing to a condition which could be remedied.

Fortunately there was a considerable accumulation of manure in the cattle yard. This was spread at once and followed by an application of one ton of ground burnt lime to the acre.

*An address before the eighteenth annual meeting of members of the Horse and Mule Association of America, December 1st, 1937.

After the first rain the land so treated was re-seeded with mixed clovers and a small amount of blue grass. Following this, on the same land, 350 pounds of 16 per cent. super-phosphate to the acre was spread. These applications were made at the far end of the colt and filly pastures, partly because that end of the pastures had been badly neglected and partly because the best grass there would mean additional exercise for the stock going to and from the barns. However, so attached did the colts and fillies become to these far ends of their paddocks that it was often necessary to send a man down to bring them back, even at feed time. Their preference for these fertilised and mineralised plots, which they had previously scorned, was unmistakable.

[*Note by Secretary Dinsmore.*—Ordinarily, manure and lime are spread in late fall and winter months and super-phosphate in March: but the necessity of prompt treatment led to immediate use of manure and lime in August, 1926, and super-phosphate early in September, 1926. Fortunately fall rains came, making the fertilisers promptly available. Long continued tests by State Experimental Stations, however, indicate that winter and spring application—the usual system—is best, for fall rains do not always come when needed.]

All the horse manure from the barns was run through the cattle yard and tramped down by 40 head of cattle kept for that purpose. The cattle were fed cottonseed meal, shelled corn, ensilage and hay. Hogs were kept with the cattle in order to work up the manure, add their own manure to the mixture and eat the grain undigested by the cattle. In working up this manure the hogs exposed a great deal of it to the air and sunlight, thereby helping to exterminate the parasites in the horse droppings.

As manure became available from the cattle yard it was spread on the horse pastures.

In addition, the feeding schedule was changed. The cook room was closed and during my time at the farm was used only as a store room. No feed was cooked. Still following the clue of mineral deficiency, the heaviest oats obtainable were brought from the Pacific Coast at a cost of $1.00 per bushel, delivered at the farm. The mineral content of these oats is so heavy in comparison with standard oats that for purposes of supplying mineral deficiency they appeared cheap even at that price. With these oats was fed green alfalfa meal, not exceeding one pint per feed, together with bran, yellow corn and linseed meal. The colts were also fed a cod-liver oil emulsion containing calcium and phosphorus. This emulsion was fed for ten days, then suspended for ten days, then fed for another ten days. During the ten-day suspension, mineral oil was substituted. This was all the grain ration, based on the old theory that hard grain makes hard horses.

At the end of 90 days from the time this feeding schedule and mineralising programme had been put into effect, blood samples were again taken from the same animals as before. This time, instead of reporting by telephone, the chemist from Johns Hopkins Laboratories called personally to find out what had made such a radical increase in the quantity of minerals showing in his analysis of the blood samples.

At this point I should explain that I followed the course I have just outlined because I believed that it is better to supply these minerals through the natural feeds as much as possible, rather than through artificial concentrates.

The horses which had been racing for the stable in 1926 came back to the farm late in the fall of 1926 for the winter of 1926-27. They too were put on a feeding schedule assuring an ample supply of essential minerals. Naturally it was with some anxiety and a lively degree of curiosity that I waited to see what the 1927 racing season would hold for our horses.

The results were emphatic and surpassed my rosiest hopes. In 1926 the stable had won about $46,000; that is, about 10,000 dollars more than its ten-year average. In 1927 it won over $186,000. In 1926 it won 28 races—in 1927 it won 58. The number of races won doubled, but the amount of money won, quadrupled.

1928 was even better. The stable won 60 races worth $234,640, putting the owner in the enviable position of leading the list of money winners.

On July 1st, 1928, my contract came to an end and I left the farm. I felt that the yearling crop that year was much the best so far reared at Belmont. Unfortunately these horses were taken south for winter racing. Practically all of them contracted influenza of a very severe type. Many of them were raced perhaps too soon after this sickness. In any event, the horses that I was confident would prove the best group sent into the racing stable from the farm, turned out to be of very little use for racing.

After I left Belmont, the practices I had adopted to assure an ample supply of minerals, were not continued. It is interesting and perhaps significant that the winnings of the stable fell rather sharply to a point about the same as where they had been before the mineralising programme had been put into effect.

In this story there is one point of cardinal interest. The owner in question raced only the animals he had bred himself with only one exception that I can recall. The large winnings, therefore, were entirely made, to all intents and purposes, by animals bred at Belmont. When given an adequate supply of minerals contained in a proper feeding schedule these animals proved themselves about the best race-horses in the country. Without proper nutrition they were

indifferent performers even when they stayed sound enough to race.

I take the liberty of giving you this story in some detail because I know of no other case where all the horses of a large racing stable came from one farm—a farm where the breeding stock remained the same both before and after the experiment in nutrition, and where the horses came from comparative obscurity to the pinnacle of success and then after the experiment in nutrition was discontinued, returned to obscurity.

I hope that these facts which I have outlined may be of service not only to breeders of race-horses but to breeders and owners of other types of horses as well, wherever the physical welfare of the horse is of importance.

[In forwarding the foregoing address for publication, Mr. Wayne Dinsmore, Secretary of the Horse and Mule Association of America, writes: "A year ago, an address on 'Lameness in Horses —Its Relation to Their Feed" by Dr. D. M. Campbell, attracted world-wide attention." (Reproduced in the issue of the *Veterinary Record* of February 6th, 1937.—*Editor.*) "The enclosed address, by Dr. Robert L. Humphrey, is a follow-up to that. It would not have been available but for the alert attention of Abram S. Hewitt, of Montana Hall, White Post, Virginia, a breeder of thoroughbreds, who advised me that Dr. Humphrey had facts bearing on the subject. Dr. Humphrey was interviewed, and agreed to prepare a statement answering questions propounded by Mr. Hewitt and myself. Especial thanks are due to Mr. Hewitt for his valued assistance and to J. A. Estes, Editor of the *Blood Horse,* Lexington, Kentucky, and R. J. Brooks, Editor of *Daily Racing Form,* 441, Plymouth Court, Chicago, Illinois, who placed important records of their offices at our service."]

EQUINE ENCEPHALITIS

Action Taken by the National Horse Association

Outbreaks of encephalomyelitis among horses have recently occurred in U.S.A., Canada and other countries—indeed, it is understood that one veterinary surgeon in Canada has had 100 cases—and a special committee has had to be appointed at Montreal to deal with the situation. The National Horse Association of Great Britain appreciated that this disease has not appeared to any great extent in this country, but the Association at once communicated with the Ministry of Agriculture urging that everything in their power should be done to prevent the introduction of this disease into the country, and that, in particular, horses imported from abroad should be most carefully watched.

The Association is, therefore, pleased to be able to state that the Minister of Agriculture has informed them that he proposes to amend the Importation of Horses, Asses and Mules (Great Britain) Order of 1921, so as to require every horse, ass or mule, brought into Great Britain from abroad to be accompanied by an official veterinary certificate of freedom from this as well as other infectious equine disease.

THE UNFILLED POST OF ADVISER ON ANIMAL HEALTH

CORRESPONDENCE BETWEEN THE N.V.M.A. AND THE COLONIAL OFFICE

In the editorial columns of this issue we relate the unsatisfactory story of the unfruitful negotiations conducted by the N.V.M.A. with the Colonial Office since the lamented death of Mr. Eustace Montgomery, in June, 1932, to revive the appointment of Adviser in Animal Health then allowed by the Colonial Office to lapse, the newly unified Colonial Veterinary Service thus being deprived of the officer who was to become its head.

The text of the items of correspondence, essential to an understanding of the present position in this matter, which have passed between the "National" and the Colonial Office, is reproduced below.

1.—*From the Secretary of the N.V.M.A. to the Right Hon. W. Ormsby Gore,* M.P., *Secretary of State for the Colonies (dated April 24th,* 1937).

I am instructed to refer to the letter addressed to this Association by the Under-Secretary of State, on November 6th last, Ref. 1150/36, and to inform you that the decision to leave vacant the post of Adviser on Animal Health has been received by the Council of this Association with keen disappointment and with dissatisfaction by the veterinary profession generally.

It is understood that one of the reasons for this decision is the marked increase in collaboration which has been evident during the last few years between the veterinary officers in the more important Colonial Dependencies in Africa as the result of group conferences. While the usefulness of these conferences and also of the Advisory Committee referred to later in that letter is appreciated, the Association still feels that there are a number of substantial reasons to support its view that the post of Veterinary Adviser should be re-established.

The Association would, therefore, welcome an opportunity of placing these reasons before you personally and hopes that you will be good enough to receive a deputation for this purpose at an early date.

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2.—*From the General Secretary, N.V.M.A., to the Under-Secretary of State (dated June 11th,* 1937).

I am directed to refer to the interview which Earl de la Warr granted to representatives of this Association, on May 24th, with regard to the vacant appointment of Adviser on Animal Health.

At the conclusion of the interview, the President of the Association was given to understand that certain of the information conveyed to the deputation would be put in writing. On this being reported to the appropriate committee of the Association at a meeting held on June 8th, I was instructed to remind you of this understanding and to express the hope that the Association might look forward to the early receipt of the promised letter.

3.—*From the Under-Secretary of State, Colonial Office, to the General Secretary of the N.V.M.A. (dated June 30th, 1937).*

(1) I am directed by Mr. Secretary Ormsby Gore to refer to the representations which were submitted by the deputation from the National Veterinary Medical Association which was received by Lord de la Warr, then Parliamentary Under-Secretary of State for the Colonies, on May 24th, when the question of reviving the appointment of an Adviser on Animal Health was raised.

(2) The deputation in their representations referred to the report of the committee appointed by the Secretary of State for the Colonies under the Chairmanship of Lord Lovat to enquire into the Colonial Veterinary Service. The report was published as Cmd. 3261 in 1929. Attention was drawn to the recommendation made in that report that an Adviser on Animal Health should be appointed at the Colonial Office.

(3) This post was, in fact, created in 1930, but it has been vacant since the untimely death of Mr. R. E. Montgomery in 1932. It was represented by the deputation that the National Veterinary Medical Association had considered that a successor should be appointed but that the matter was not pressed during the period of financial depression. At the present time, however, the Association wished to urge that such an appointment should be made without delay and that, in their opinion, it was necessary for the well-being of the Colonial Veterinary Service.

The Association did not regard the arrangements which had been made for the collaboration of Colonial Veterinary Officers through group conferences as adequate, nor did they consider that the more recent arrangements for the development of the work of the Animal Health Committee of the Colonial Advisory Council of Agriculture and Animal Health were sufficient. It was felt that the co-ordination of the activities of the various Colonial Veterinary Departments could only be organised satisfactorily by a veterinary officer having the influence which attaches to a senior official position at the Colonial Office. The view was expressed that the diminution of efficiency which had resulted from the present conditions was to be deprecated.

(4) The Secretary of State has given most careful consideration to the representations which the deputation from the National Veterinary Medical Association made to him and to the views expressed in the statement which was submitted. Mr. Ormsby Gore desires to point out that effect has been given to such of the recommendations of the Lovat Committee as it has been found possible to implement. A Colonial Advisory Council of Agriculture and Animal Health, with a Standing Council of Animal Health has been established and the valued assistance of prominent members of the veterinary profession and of others interested in animal nutrition and animal husbandry has been secured for the Council and its committees. The Deputy Chairman of this committee is a veterinarian who formerly held the post of Director of Veterinary Services in one of the African Dependencies and has a wide knowledge and experience of agricultural administration in its animal industry and veterinary aspects. The advice of this committee is sought whenever important questions affecting colonial policy in relation to animal industries are under consideration.

It has also been accepted that in order to secure the efficient administration of Veterinary Departments in the Colonial Dependencies, the utmost care is required in the training and selection of candidates for posts therein. The Colonial Veterinary Scholarship Scheme has been inaugurated and the selection of candidates for these scholarships is entrusted to an Advisory Selection Committee which includes two veterinarians who are members of the Colonial Advisory Council of Agriculture and Animal Health. In framing the course of instruction full advantage has been taken of the advice and assistance of the professional bodies connected with the veterinary profession in this country and, so far as practicable, their advice in this connection has been closely followed.

Since October, 1934, the veterinary services of the various colonial governments have been combined to form a unified Colonial Veterinary Service; Mr. Ormsby Gore feels certain that the marked enhancement of the status of colonial veterinary officers which results from this important step will be fully appreciated by your Association.

Provision has also been made for post-graduate courses of training and for refresher courses to be undertaken by members of the Colonial Veterinary Service during periods of leave and for the award of special study leave to them with these objects in view. Moreover, consideration is also at the present time being given to the feasibility of providing for centralised research on colonial veterinary problems at the Veterinary Research Laboratory, at Kabete, in Kenya.

In addition, an adequate system for the collection and dissemination of technical information required by colonial veterinary officers has been established through the creation and development of the Imperial Bureaux of Animal Pathology, Animal Genetics, Animal Nutrition and Animal Parasitology. Colonial veterinary officers maintain close touch with these bureaux and invariably pay visits to them during their periods of leave.

(5) In view of the foregoing, Mr. Ormsby Gore feels that adequate provision now exists:—

(*a*) For the recruitment and training of colonial veterinary officers;

(*b*) For safeguarding their professional and official status;

(*c*) For the maintenance and improvement of the technical knowledge of veterinary officers;

(*d*) For the provision of that measure of assistance in respect of technical matters in the performance of their duties which may be regarded as essential;

(*e*) For the consideration by a properly constituted and professionally competent official advisory authority of all questions of policy affecting veterinary matters in the Colonial Dependencies.

(6) In these circumstances, Mr. Ormsby Gore finds it somewhat difficult fully to understand the grounds on which the request for the re-establishment of the post of Adviser on Animal Health is based. He desires me to point out that in his view questions of animal husbandry and those of crop husbandry must be considered in the closest relation to one another, and any attempt to separate them into compartments can only lead to confusion and administrative difficulties. In recent years it has become increasingly recognised that agricultural and veterinary matters should be as closely co-ordinated as possible and the Secretary of State appreciating the importance of measures for developing the utilisation of animal products and for controlling soil erosion and also of the need for developing mixed farming, in which animal

husbandry must play an important part, in the Colonial Dependencies, is desirous that the Colonial Advisory Council of Agriculture and Animal Health should provide the co-ordinating link required.

He fully appreciates the desire of your Association that due weight should be attached to the important part that questions connected with animal health should play in the policies of the Colonial Dependencies; he equally appreciates the anxiety of the veterinary profession that due and full recognition should be accorded to its members in the colonial services, and he welcomes this anxiety as a proof that the veterinary profession as a whole is imbued with that zeal which is of such importance if efficiency is to be secured.

(7) Nevertheless, he feels that considerations of this kind may be pushed too far, and in particular he would point out, with special reference to the proposal now under consideration, that the late Mr. Montgomery, during the short time that he held the post of Adviser on Animal Health, himself found that there was insufficient work for the full-time occupation of an Adviser: and although it might conceivably be held that the amount of work would in the process of time have grown, yet the Secretary of State is satisfied that that possibility would not justify his sanction to the re-creation of the post of a separate Adviser on Animal Health in the Colonial Office. He considers that for the reasons set out above questions relating to veterinary matters which are submitted by colonial governments should continue to be dealt with by the Colonial Advisory Council and its Standing Committee on Animal Health and that the work of this committee should be developed as occasion demands.

(8) Mr. Ormsby Gore has, therefore, reached the conclusion that there is no justification for the re-creation of the post of Adviser on Animal Health. This conclusion he has reached only after the fullest consideration of all the issues involved and of the representations made by the National Veterinary Medical Association.

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4.—*From the General Secretary, N.V.M.A., to the Under-Secretary of State, Colonial Office (dated October 6th,* 1937).

(1) I am directed by my Association to thank you for your letter, No. 1150/37 of June 30th, in which you refer to certain arguments put forward by a deputation from the Association which Lord de la Warr received on May 24th last, and in which you detail the reasons which have led to a decision that there is no justification for re-creating the post of Adviser on Animal Health to the Secretary of State for the Colonies.

(2) The decision of the Secretary of State has been received by the Association with the gravest concern. At the interview to which reference has already been made, the members of the deputation were informed by the then Under-Secretary of State, Lord de la Warr, that, although the Department could not agree that the appointment of an Adviser on Animal Health was immediately necessary, the principle that such an appointment should be made at a later date was accepted by the Colonial Office. The ultimate paragraph of your letter appears to the Association to intimate that the decision given to the deputation has, on further consideration, been reversed, and that the post of Adviser on Animal Health has been finally abolished. Not only does such a decision occasion the gravest concern to the Association, but it will give rise to no little consternation in the minds of all members of the veterinary profession, both at home and abroad, and more particularly so since it has been made by Mr. Ormsby Gore, who was a member of the committee which not only originally recommended the appointment but put forward very cogent reasons why such was necessary. Mr. Ormsby Gore has always been looked upon as one who was most anxious to assist in establishing the Colonial Veterinary Service upon a sound and satisfactory basis and the hopes which were raised when he became Secretary of State for the Colonies have been replaced by a feeling of depression.

(3) My Association realises that some of the recommendations of the Lovat Committee, as detailed in your letter, have been implemented but it cannot understand why, immediately after the Colonial Veterinary Service has been unified, it should be deprived of the officer who was to become its head. Unification calls for one to establish, maintain and increase, the unified effort but it would appear that the veterinary alone among the unified allied services, is to exist without a head.

(4) The Association notes that meetings are now being held of the Committee of Animal Health. Whilst such a committee can discuss and recommend a general policy, it cannot attend to the day-to-day administrative details essential to the adequate control of that policy nor can it deal with such variations and difficulties as must continually arise. In this connection, the Association feels that it must draw attention to the fact that a similar committee exists to consider agricultural matters, relegated by the Advisory Council, and amongst its members are those who have experience in various parts of the Empire. This committee would appear to be so insufficient that not only is there an Agricultural Adviser at the Colonial Office but he has recently been provided with an assistant. The Association is quite at a loss to understand why a committee should be considered quite adequate in one department and so completely inadequate in another. Also the selection of candidates for the Agricultural Service is carried out in a manner practically similar to that outlined in your letter as obtaining for the Veterinary Service. In like manner bureaux have also been established for the collection and dissemination of information relating to the various branches of crop industry and of soil. The Association regrets that it is necessary to draw a comparison between the Agricultural and Veterinary Services. It suggests, however, that such cannot be avoided and is justified because both Services were the subject of an enquiry and, in general, the recommendations regarding the organisation at the Colonial Office were similar, as were many others. Both Services combine on the Advisory Council.

(5) The Association instructs me to say that it is in the fullest agreement with the views of the Secretary of State as put forward in the initial portion of paragraph 6 of your letter. It realises that the relations between animal husbandry and crop husbandry are most closely related and cannot be divided into watertight compartments. The training of veterinarians has tended to add more and more to their knowledge of the husbandry branch for their true function is to prevent, as well as cure, disease. The Association feels that the closest liaison must exist between the departments concerned if progress is to be made with the large herds of backward stock found in many of the Colonies. The establishment, guidance and maintenance of such

a liaison can, my Association suggests, only come from the Colonial Office, and should result from the active endeavours of advisers, experienced in both branches, in co-ordinating and apportioning the various steps which must be taken. The Association strongly puts forward the view that the necessity for the liaison discussed is one of the most pregnant arguments for the immediate appointment of an Adviser on Animal Health. It also suggests that an Advisory Council, on which there are only two veterinarians, one of whom only has had administrative experience in a Colony, cannot possibly supply that connecting link which the Secretary of State is anxious to create and which it feels is most necessary.

(6) The Association realises the many calls upon the time of the Secretary of State. It would point out, however, that the decision intimated in your letter, discarding, as it would appear, the recommendations of a Special Committee which were accepted by a former Secretary of State and adversely amending the decision conveyed to the deputation of my Association by Lord De la Warr is of the most vital importance to the Colonial Veterinary Service and to the profession in general. That being so, the Association respectfully requests that an opportunity should be given to re-discuss the matter with the Secretary of State himself and the request is put forward with the greater confidence because the Association is convinced that Mr. Ormsby Gore realises that the efforts now being made are for the express purpose of making more valuable the work of veterinarians in the Colonies and is aware of the resolutions passed at the Conference on Co-ordination of Veterinary Research, held at Kabete on January 6th, 1934, and the Conference held at Nairobi in 1935.

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5.—*From the Under-Secretary of State, Colonial Office, to the General Secretary, N.V.M.A. (dated October 30th, 1937).*

(1) I am directed by Mr. Secretary Ormsby Gore to acknowledge the receipt of your letter of October 6th, on the question of reviving the appointment of Adviser on Animal Health.

(2) With reference to the statement in the last paragraph of the letter from this Department of June 30th, that the Secretary of State has reached the conclusion that there is no justification for the re-creation of the post, I am to explain that this was not intended to convey the impression that Mr. Ormsby Gore considers that the appointment should not under any conditions be revived. Lord De la Warr informed the deputation which he received from your Association, on May 24th, that there was no objection in principle to the appointment of an Adviser on Animal Health, provided that the amount of work coming into the Colonial Office was sufficient to justify such an appointment. He added that the existing volume of work was not considered sufficient to justify the revival of the post, and expressed the view that the preferable course of action lay in the further development, as occasion might demand, of the activities of the Animal Health Committee of the Colonial Advisory Council of Agriculture and Animal Health. This was indicated clearly in the letter from this Department of June 30th.

(3) Mr. Ormsby Gore sees no reason to vary the decision conveyed to you in that letter, and, in the circumstances, he does not think that further oral discussion would serve any useful purpose.

CLINICAL COMMUNICATIONS*

Some Cases of Interest met with in Practice

R. R. PIERSE, M.R.C.V.S.,
Listowel.

Rupture of the Prepubic Tendon

The first condition to which I would like to refer is rupture of the prepubic tendon in the mare. I had not met with this condition in three years until this season, when three cases of it turned up within a fortnight. I will give a brief history of these cases.

(i) A twelve year-old Clydesdale mare in very soft condition. She had not been worked for three months previous to the occurrence of symptoms. Two days before she was due to foal a swelling was noticed on the ventral surface of the abdomen. The owner thought springing to account for this and put the mare to light work. The swelling then increased out of all proportion—the form of the mammary gland disappeared; in fact, one might say that the middle line from the perineum to the sternum was a straight line, as the normal slope of the abdomen was gone. The mare foaled on the day she was due; the foal only lived about 30 minutes and the mare retained the placenta. I attended her about eight hours after foaling and at that time she presented a striking appearance: slack pendulous abdomen, laboured respirations, ears back. Her temperature was only slightly raised and the pulse was strong. I removed the afterbirth and put on a support made from a meal bag. She then got a laxative and some stimulants. After a short while she began to eat and was doing well until the third day, when she dropped dead. I was unable to make a *post-mortem* examination.

(ii) The second subject was a 16-year-old half-bred mare which had been purchased in foal and the owner "had no time for her." This animal was doing light work all the time until

*Communicated to the August (Horse Show) General Meeting of the Veterinary Medical Association of Ireland, at the Veterinary College, Dublin, August 4th, 1937.

6.—*From the General Secretary, N.V.M.A., to the Under-Secretary of State (dated November 1st, 1937).*

I am in receipt of your letter of October 30th, Reference 1150/37 in answer to the Association's communication of October 6th on the question of reviving the appointment of Adviser on Animal Health, and will report what you write to the appropriate committee of the Association.

the swelling appeared. She had not foaled when I was called to see her and was not due to foal. The curve of the abdomen had not vanished entirely in this case, although the form of the udder had gone. The swelling had been getting worse for three days at this time and the mare was rapidly losing condition although feeding. From my examination of her I came to the conclusion that the tendon was not entirely ruptured and I decided to take the foal.

The mare was given 15 c.c. of "parsetic" epidurally and then the *os* was easily dilated and a live foal delivered. The mare stood all the time during delivery and the support which we had on the abdomen was being tightened gradually while delivering the foal. This foal lived and did well, the mare being able to nurse it. I saw her on Monday last, she is doing all classes of farm work, but there is a swelling at each flank about half the size of a rugby football.

(iii) The third subject was a ten-year-old Irish draft mare. She had foaled about twelve hours when I saw her and the foal was living. Her appearance and symptoms were similar to those of the first case, but respirations were not so distressed. She had also retained the placenta. Treatment was identical with that in case (i) and this mare lived but is useless, owing to the great deformity of her abdomen. The foal died when a day old, no cause for death being revealed on *post-mortem* examination.

None of these cases had any history of any accident or kick. I mention them because one does not often read of the condition in the literature and no reference is made to it in some prominent works on veterinary obstetrics. Why do mares die from rupture of the prepubic tendon? Is it through interference with respiration or is it as a result of hernia? The only successful treatment seems to be premature delivery, and it is not always easy to convince owners that this is so.

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Chronic Lead Poisoning

The second condition about which I intend to speak is that of chronic lead poisoning in cattle.

On May 8th last I was asked to look at four cows which were pining away. These cows were in a herd of twelve which was owned by a man living in a small town. The cattle had been in the best of pasture for three weeks before this date and all the other animals were in excellent condition. Before being put out to grass they were housed in a grand airy byre which had been built six months previously. There was a constant water supply, each cow having a patent drinking trough to herself. The four cows mentioned had refused hand feeding for some time before they were put on grass, but had fed normally on pasture. They had a slight scour. Examination of their faeces was negative for fluke and coccidia. None of them had a cough and their temperature was normal. The oldest of them, a seven-year-old, was staggering slightly in her gait, but the only symptom noticed at first which was common to the four of them was that their eyes seemed very prominent and they had a kind of wild stare. I was at my wits end to know what was wrong with them, but the patent troughs, which are rare in our county, took my fancy, and it dawned on me then that the lead pipes leading to these troughs were also new, and this is what made me consider lead as a possible cause. However, I may mention that they were receiving the same water supply as the human population in the many new houses which have been built in this particular town recently. I examined their mouths and there was a rather indefinite blue line present beneath the incisor teeth. I then saw the eight other cows of the herd and noticed that, of these, six cows had the peculiarity which I have already mentioned about their eyes, while the two others were normal in this respect. On questioning the owner I ascertained that these two cows were absent from the new byre for a period of six weeks and it was that evidence which made me diagnose chronic lead poisoning.

The water supply was cut off and the four cows badly affected were given potassium iodide, dr. ii, twice a day. Three samples of water were sent for analysis—one of the nearest tapping to the reservoir, the second from the lead pipes leading to the troughs, and the third from the troughs themselves. The result of the analysis was not received for three weeks and by this time the four cows were very much improved. One of them, which showed symptoms of iodine poisoning, recovered more quickly than the others. The result of the analysis was as follows: lead—No. 1, negative; No. 2, 0·18 parts per hundred thousand, and No. 3, 0·24 parts per hundred thousand. Most authorities agree that 0·05 parts per hundred thousand is the maximum safe limit for lead in a potable water supply, so that the cattle were actually getting almost five times that amount. Why were not all the cows affected? The four cows mentioned were the oldest in the herd and I wonder if age had anything to do with it. What advice am I to give the owner *re* the drinking water for his cows next winter? At present there is another sample being tested, *i.e.*, water taken from the reservoir and left overnight in the trough. We hope in this way to exonerate or incriminate the troughs, but so far as I know there is no lead used in their manufacture.

The owner of these cattle is somewhat legally minded, and will probably take an action against some party, but the question is, what

is responsible for the poisoning of the cattle—plumbo-solvent water, ordinary standard lead pipes, or the troughs themselves?

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Haemorrhage From Buccal Mucosa

A third condition which may be of interest to some memebers is haemorrhage from the buccal mucous membrane in animals after parturition.

I had never encountered such a condition until, about a month ago, I met with such a case in a bitch and, a week ago, the same condition in a sow. The symptoms, treatment and termination of the disease in both animals were identical, so that for convenience I will deal with them collectively. Both animals, about three days after parturition, were noticed to bleed profusely from the mouth whenever they partook of any food, even of a semi-solid nature. Both animals were in good condition and showed no other symptoms. The bleeding had been going on for some days when I saw them, and in each case the owner suspected that a foreign body was present in the mouth. On examination of the mouth this was proved to be incorrect, and the mouth seemed normal in every way, but when I rubbed the mucous membrane with my finger blood commenced to flow freely from it. I gave the bitch ten grammes calcium lactate three times a day, and the owner rang me up the following evening to say that the bleeding had stopped. The sow got two drachms calcium lactate three times daily with equally good results. There has been no recurrence of the condition. At that time the calcium lactate was given with a view to increasing the haemostatic properties of the blood, but I have been wondering since if these were really cases of calcium deficiency.

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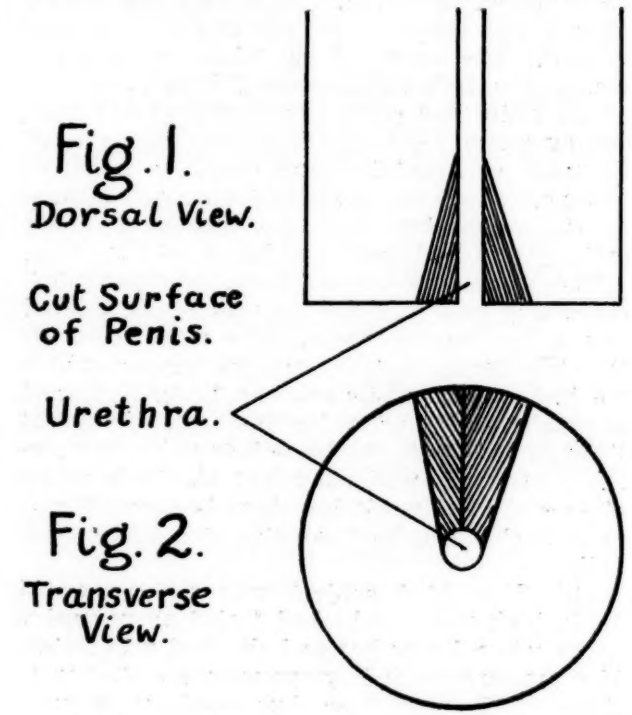
Amputation of the Penis of a Bullock*

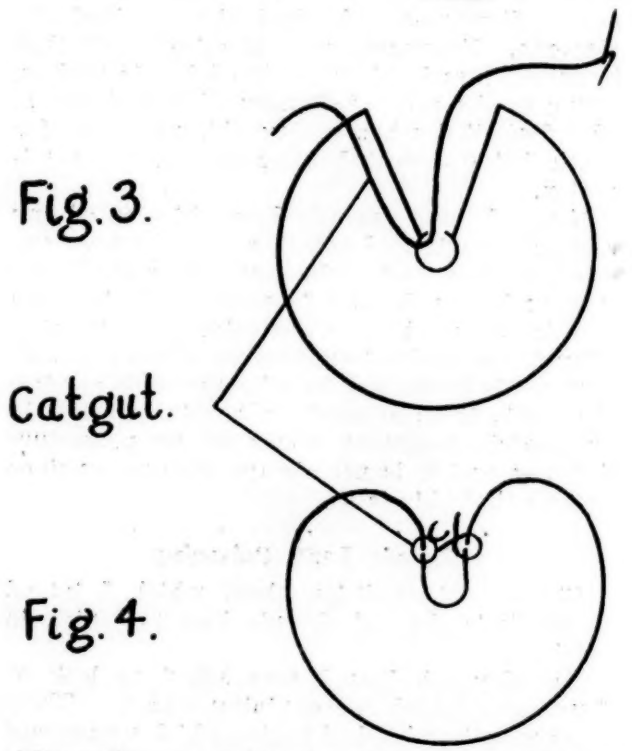
E. W. ASCOLI, M.R.C.V.S.
BIRMINGHAM

Subject.—Twelve months' old bullock.

History and Examination.—The distal end of the penis, to a length of five inches, was surrounded by a growth, of the septic papillomatous type, of the size of a coconut. The weight had caused necrosis of the underlying tissues and the whole organ was hanging down through a hole in the skin five inches behind the normal opening of the sheath. The bullock was in perfect health otherwise.

Treatment.—As the penis ran through the centre of the tumour, it was necessary to amputate the organ.





Twenty c.c. of "Parsetic" was injected epidurally by the lumbo-sacral route and anaesthesia of the hind limbs and penis was complete in 25 minutes. The bullock became, of course, recumbent.

A temporary elastic ligature was tied around the penis above the operation site and the tumour was removed by a transverse incision across the penis.

A grooved director was inserted up the

*Case seen by the author while in practice at Barnstaple, Devon.

ANNOTATION

Lessons for British Farming

At the present time the condition of British agriculture is such that it is a matter of the gravest concern both to the State and the individual alike. In a recent article to *The Times*, Professor Stapledon, of the Welsh Plant Breeding Station, Aberystwyth, draws attention to the wholesale deterioration in all grades of grassland. There are at least 16,000,000 acres of grassland in Britain, most of it existing in a state far below its maximum potential productivity. Professor Stapledon discusses several factors which would do much to restore prosperity to rural Britain and to establish an agricultural system based on arable grass-farming which would benefit all sections of the community. "Most important of all the factors influencing grassland is the grazing animal. Its urine and droppings have decisive influence on the productivity of the soil. Three conclusions follow: First, that the improvement of grassland can never be carried far by attending to one limiting factor; secondly, that the quality of British grasslands is a direct function of the number of stock they support; and thirdly, that grass fields should be periodically ploughed. The golden rule for our agriculture is: Be done with excess of permanent pasture, most of which, in relation to potentialities, is worthless to a degree farmers have not begun to appreciate. Let the nation also realise the colossal waste of fertility and nutritive ration that is permitted on a very large acreage of our best permanent pastures."

In seeking for the means of procuring enhanced soil fertility, the first essential is to provide adequate housing and higher standards of living for the rural population. "Ours is the last generation which will be content with farmhouses and cottages like most of those existing." The second essential in the means of improvement is the provision of adequate farm equipment. On many farms to-day it is only too evident that the existing machinery is hopelessly out-of-date. Professor Stapledon cites the Cahn Hill work in Wales, carried out under extreme conditions, as an example of practical standards and limits. "It has proved that the internal combustion engine has made it possible to establish productive swards where before the vegetation gave only a bare maintenance ration. It has shown that the most effective means of improvement is to plough, manure and sow."

Improvement cannot come from the landlords and farmers alone. The majority of these are already in a state of financial embarrassment, and the poor returns for agricultural produce render impossible the accumulation of working capital on a scale commensurate with the needs of the farm. But the Government have already a precedent for further help, by the creation of a subsidy for lime and slag. If for these, why not some policy directed to the provision of houses and buildings, the plough and seeds? Professor Stapledon also suggests the deviation of some industrial capital into the land. "Every big business concern," he says, "should have financial interests invested in the land." The provision of a State subsidy together with credit facilities, whereby the wages of the rural worker can be brought to an equality with those of the worker in industry, and which will enable the land-owner or farmer to spend money on farms and buildings, is necessary to prevent the decay of rural England.

In conclusion, Professor Stapledon states that the experience gained from the work at Aberystwyth leads him to believe that "a successful policy for agriculture can only be one which is also a successful policy for rural Britain, and that must be one which puts facilities before the land itself, and then puts the land before the commodities which at any particular moment it produces."

N. J. S.

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urethra and an incision two inches long was made down to it from the dorsal surface of the penis, in the middle. The shaded triangular portions of the penis shown in diagrams 1 and 2 were cut out and the cut edge of the skin of the penis was sown by catgut to the cut wall of the urethra of the same side. (Diag. 3 and 4.) During healing, therefore, cicatricial contraction tended to open the urethra, not to close it.

The penis was returned to the sheath, and, as far as possible, the abdominal skin was stitched.

No after-treatment was possible, but the bullock made a good recovery and was sold fat several months later.

PIG STANDARD IMPROVEMENT IN SCOTLAND

As in previous years, financial assistance will be provided in 1938 to Livestock Breeding Societies in Scotland for the purpose of improving the standard of pig breeding. Grants will be offered to Societies that own or arrange for the use of approved boars of the Large White, Large Black and Middle White breeds, for the service of sows belonging to their members. The grants are at the rate of £6 for boars that have passed the tuberculin test, and £5 for other boars for the first year, and £4 10s. and £3 15s. respectively for the second year. The tuberculin test must have been carried out within three months preceding the date of approval. It must be made by a qualified veterinary surgeon, and the test chart has to be forwarded to the Department of Agriculture for Scotland for inspection.

ABSTRACTS

[Pathogenic and Antigenic Effects of Brucella abortus, United States Bureau of Animal Industry Strain 19. Haring, C. M., and Traum, J. (1937.) *J. Agric. Res.* **55.** 2. 117-128.]

A study of a certain strain of *Br. abortus* from the point of view of its suitability for use for the preparation of a living vaccine against bovine contagious abortion.

The strain, when grown on glucose glycerin agar, remained unchanged for five years as regards its virulence for guinea-pigs and cattle. Incidentally, it remained suitable for antigen preparation (for agglutination test) as the result of occasional rejuvenation effected by subculturing from a smooth colony.

When injected into non-pregnant cows as a live vaccine, the organism disappeared from the circulating blood in two to three weeks. Such cattle, if kept in contact with susceptible animals, did not transmit the disease. When injected into pregnant cattle, typical brucellosis resulted.

Vaccinated animals showed a marked increase of resistance to natural Brucella infection and even resisted reasonably heavy artificial conjunctival infections. E. J. P.

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[Trichomonas Infection in a Heifer and a Brief Review of Abortion in Bovines due to Trichomonas Infection. Robinson, E. M. (1937.) *J. S. Afric. Vet. Med. Ass.* **8.** 3. 134-140]

The first report of the occurrence of *Trichomonas foetus* as a cause of bovine abortion in South Africa, and a summary of the present-day knowledge of this disease. [This subject was the basis of an extensive review article by A. W. Stableforth in the *Veterinary Record*. Apart from the fact that it has now been definitely established that this infection occurs in South Africa, the chief interest in Robinson's report is that it emphasises the value (so seldom appreciated by laboratory diagnosticians) of the examination of moist, unfixed preparations of pathological specimens before resorting to staining procedures. In this particular instance Trichomonad infection was not suspected and would probably have been missed, had the examination of moist preparations not been a routine procedure.]

E. J. P.

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[Scurvy in the Pig. Michalka, J. (1937.) *Wien. tierärztl. Mschr.* **24.** 19. 577-589.]

An experiment lasting four months was carried out in order to determine the effect of the absence of vitamin C in the diet of young pigs. Eleven animals about eight weeks old were divided into two groups. One group received a diet of 60 per cent. barley meal, 30 per cent. wheat meal, 6 per cent. fish meal and 2 per cent. chalk at the rate of 1 kg. per pig per day; in addition, 200 g. of hay were given to each animal daily. The other group received the same diet but before being fed it was heated for one hour at 105° C. to destroy the vitamin C.

The experimental animals did not grow nor increase in weight to the same extent as the control animals and after about three months they showed signs of scurvy. There was swelling and bleeding from the gums, a chronic stomatitis with cornification of the filiform papillae of the tongue which became grey, dry, thick and lustreless. In some cases the mucous membrane of the pharynx also became cornified. In three cases an ulcerative gingivitis developed and in two cases the lips and mucous membrane of the cheeks were also affected. Areas of necrosis were found on the nasal mucous membrane of two pigs. In every case the costal cartilages were thickened and there were subperiosteal haemorrhages especially on the lower jaw and ribs.

The experimental animals before being killed were infected artificially with swine fever or swine erysipelas and as well as the typical lesions of these diseases a haemorrhagic diathesis was present.

Natural cases of scurvy in pigs are usually accompanied by other conditions, *e.g.*, paratyphus, acute gastro-intestinal catarrh, etc., but the typical lesions in the mouth and bones, and the presence of haemorrhages reveal the condition.

It is pointed out that the natural food of pigs is rich in minerals and vitamins but poor in protein, whereas the artificial diets now commonly fed are rich in protein and poor in minerals and vitamins. It appears, therefore, that some addition to the diet should be given, especially during the winter months and for this purpose first quality hay would be suitable.

J. A. N.

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[Contribution to our Knowledge of Acetonemia in Cattle. (Trans. title.) Koffman, M. (1937.) *Skand. Vet. Tidskr.* **27.** 8. (August, 1937.) 413-446. 8 tables. 5 refs. (English summary 442-446.) Abstract compiled from English summary of paper in conjunction with tables.]

The author describes his investigations into an outbreak of acetonuria in a herd of 70 cows in Sweden. He attempted to correlate the amount of acetone in the urine with the *p*H of the rumen content and the bacterial and protozoal content of the rumen. His results appear to indicate that an increased acidity of the rumen contents coincided with an increased acetone figure for the urine. His

figures for urinary acetone are given as milligrammes per litre and these figures are much below the figures recorded by many other investigators in various parts of the world. The author also claims to have established a correlation between the *p*H of the rumen, the acetone content of the rumen and the relative proportions of large and small protozoa in the rumen; the proportion of large protozoa apparently increasing with the development of acetonuria.

The author differentiates between acetonuria associated with calving and another form or forms arising from feeding or other causes.

Perhaps the most interesting statement in the paper is that the micro-organisms from the rumen contents will, if incubated with Swedish turnips at a temperature of 37° C. and a *p*H of 7, produce acetone, as much as 90 milligrammes being produced from a litre. With a *p*H of 5 the formation of acetone ceased. The importance of this observation, if it be confirmed by other workers, is obviously very great, for it may explain the occurrence of those apparently normal and healthy cows that have both a high blood and high urinary acetone figure.

Finally the author points out that the administration of 100 mg. of acetone into the rumen of a cow had no injurious effects; he was, however, unable to determine entirely the fate of acetone so administered.

G. F. B.

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[A New Antidote for Poisoning with Heavy Metals and Certain Metaloids. Strzyzowski, C. (1936.) *Presse méd.* 44, 780-783.]

Since the heavy metals are precipitated as the insoluble sulphides by sulphuretted hydrogen, the author has prepared a solution of H_2S for use in cases of poisoning by these substances. The method of preparation is as follows: 2 g. of pure caustic soda are dissolved in a litre of boiling distilled water and when cool the solution is saturated with H_2S; 7·5 g. of crystalline magnesium sulphate and 2·5 g. of pure sodium bicarbonate are dissolved in another litre of distilled water at 50° C. The two solutions are cooled to 0° C., mixed and again saturated with H_2S. The antidote is then ready for use.

When taken in 100 c.c. dose *per os*, the antidote was found to produce no ill effects but it cannot be given intravenously. In order to test its efficacy the author himself took 0·2 g. of corrosive sublimate in water—approximately ten times the lethal dose for a man—and a few minutes later took 50 c.c. of the antidote. Apart from a burning sensation in the mouth and pharynx no ill effects were experienced.

J. A. N.

[Debatable Tumours in Human and Animal Pathology. Harvey, W. F., Dawson, E. K., and Innes, J. R. M. (1937.) *Edin. Med. J.* N.S. (IV) 44, 549-555. 19 photomicrographs.]

Definition, description, discussion and directional literature are the headings under which the authors (human and veterinary pathologists in collaboration) propose to deal, in a series of papers, with certain tumours which have raised difficulties in histological diagnosis.

With regard to malignancy in general, it is their view that there is no specific cancer cell but rather a cell of normal character and origin, altered by reason of environmental conditions. The causal factors underlying such pathological environment are at present believed to be non-specific.

This, the first paper, is devoted to the *lympho-epithelioma*, a radio-sensitive tumour in which lymphoid tissue is intimately associated with an immature squamous or epidermoid type of malignant epithelium. It may arise from (1) the facial, lingual and pharyngeal tonsils, (2) the naso-pharyngeal mucosa, and (3) more rarely, the thymus.

The tumour is highly cellular, consisting of large, ill-defined epithelial cells arranged in solid alveolar strands, bands and masses lying in close relationship to a stroma of lymphoid tissue with an argyrophile scaffolding, from which it is not clearly demarcated. One of the chief features of the growth is that lymphocytes may penetrate between the mosaic of epithelial cells. The epithelial cells are rather immature but apparently definitely pavement type. There is no cornification; hence no well-developed "pearls" or "cell-nests" are seen. Individual tumour cells have abundant granular cytoplasm and a large, pale, vesicular nucleus containing one or more nucleoli. Mitotic figures are numerous in the growth. Metastases in lymph nodes display a similar structure. Secondary growth in lung, liver and bone, have not been examined but they are described in the literature.

In discussing nomenclature, the authors consider the name of transitional-cell carcinoma, applied by Ewing, appropriate but prefer to employ the term epidermoid carcinoma for the lympho-epithelioma and all epitheliomas that are not definitely squamous or basal-cell in type. Reticulum-cell sarcomata and some types of reticulo-endotheliosis are also capable of forming epithelioid cells. Indeed, architecture and cytology are not sufficiently distinctive to differentiate the lympho-epithelioma and reticulum-cell sarcoma, so that the authors are led to the conclusion that the lympho-epithelioma they have described in reality covers two types of malignant growth, the epidermoid or transitional-cell carcinoma and the reticulum-cell or lympho-sarcoma.

J. W. W.

[**Diabetes Mellitus in Dogs.** Bloom, F., Flushing, N. Y., and Handelsman, M. D. (1937.) *N. Amer. Vet.* **18.** 4. (April, 1937.) 2 tables. 33 refs.]

These authors point out that the diagnosis of many so-called cases of diabetes mellitus described in veterinary literature cannot be accepted as being proven in that the essential biochemical investigations had not been made nor were histo-pathological details given of the *post-mortem* findings, mere macroscopic evidence in regard to the pancreas being valueless.

Statistics are given of the possible incidence of diabetes mellitus in dogs and all the evidence points to a low incidence. One interesting point is the increase in the incidence of established cases coincident with greater use of urine analysis as an aid to diagnosis. The paper describes in detail two cases of diabetes mellitus in dogs; these were encountered in a series of 2,443 dogs, an incidence corresponding to figures given by other authors quoted in the text.

The first case was in an aged poodle-cross, suffering from a generalised skin disease of three years' standing and characterised by severe pruritus. Urine analysis suggested the possible existence of diabetes mellitus and the biochemical findings of a blood sample confirmed the diagnosis.

It was found possible to keep the urine sugar-free by means of insulin. The dog was allowed home and kept on a "generally restricted diet." It died suddenly a fortnight after going home and no *post-mortem* examination was made.

The second case was that of a one-and-a-half year old Irish setter, with a history of thirst and polyuria of one week's duration.

Urinary and blood examinations established a diagnosis of diabetes mellitus. A glucose tolerance test with 50 grammes of "sugar" given by stomach tube gave in two hours a blood sugar figure of 404 mg. per 100 c.c. of blood. Symptoms of diabetic coma developed after the application of the glucose tolerance test. Following the glucose tolerance test insulin therapy was adopted; this resulted in a temporary improvement in the dog's condition that only lasted a few hours. In spite of the continued use of insulin and glucose the dog became comatose and intense jaundice developed.

The dog was destroyed and a thorough *post-mortem* examination was made. The *post-mortem* findings are described in detail, the chief points in the findings being those of "subacute pancreatitis" and fatty infiltration of the liver.

A considerable part of the paper is devoted to a discussion of the diagnosis of diabetes mellitus and also the complications, aetiology, pathology and treatment of the disease: this discussion is based largely on the work of authors quoted in the list of references. This part of the paper does not lend itself to concise abstracting; there is, however, no outstanding point in the discussion deserving comment, nor is there any statement of new or original findings.

G. F. B.

REVIEW

[**The Dissection and Study of the Sheep's Brain.** By James Wilkie. Oxford Medical Publications. Price 6s. net.]

The student of the anatomy of the brain will further his knowledge by the study of the brain of more than one species. This book demonstrates that the basic structures are the same in all brains, but various areas are developed to a greater or lesser extent depending on the environment and intelligence. This, and other points raised in the book, should help the student by indicating that certain areas are concerned with a particular power; and that it is the study of these variations of structure, and not the study of fresh structures, with which he is confronted. It follows from this that any animal which possesses a sensory apparatus different in efficiency from another species, will show a corresponding difference in the anatomy of its brain. Thus it cannot be overstressed that a comparative study is essential to complete understanding of the brain.

The method of removal of the brain for study, a very important point, is sound and practical. The objection to sawing is that one cannot always control the depth of the blade and might, therefore, injure the brain.

The description of the lateral ventricle and its boundaries, including their development, is excellent, although a little more might have been said of the third ventricle in this part of the contents.

The author mentions that some nerve tracts show up better in the sheep's brain than in others and *vice versa*. This is of value in the tracing of nerve tracts.

The description of the gyri and fissures, which play such an important part in indicating the degree of development, is also good.

The text is helped throughout by many line illustrations to guide the dissector.

The Treasury have made an Order under Section 10 (5) of the Finance Act, 1926, continuing the exemption of radium compounds from key industry duty till August 31st, 1938. The Treasury Order, which will be entitled "The Safeguarding of Industries (Exemption) No. 11 Order, 1937," will shortly be published by the Stationery Office.

The Veterinary Record

February 5th, 1938.

The Centralised Veterinary Service—Amended Conditions for the Transfer of Officers

In our previous issue we informed our readers of the resumption, on a basis satisfactory to both parties, of consultation between the Ministry of Agriculture and the National Veterinary Medical Association. We are glad to state that the renewed consultations are proceeding amicably and augur well for the ultimate success of the schemes which both the Ministry and the Association desire to further. At present we are not in a position to give details of these talks but will acquaint our readers with decisions as and when these are taken.

As announced in our notes and news columns, it has been decided that the certification fees to be paid by transferred officers are to be nominal in character, instead of the rather high fees usually demanded. Normally the rules of entry into the Civil Service require the payment by the entrant of a certification fee, which, in the case of veterinary officers entering the Civil Service through the usual channels, is £8. It has also been agreed to consider carefully the sick leave records of officers about to transfer and where possible dispense with the medical examination. In fact it has not been found necessary in the case of any of the local authority officers selected for superintending inspectorships to require such an examination. The Ministry has agreed to consider very carefully and sympathetically any case of hardship which may arise as the result of a medical examination.

These decisions have been made after full consideration of the views expressed by the National Veterinary Medical Association, by the National Association of Local Government Officers and others, and we gladly acknowledge the wisdom of the Ministry's decision. On behalf of the transferred officers we tender the Ministry our thanks and congratulate them upon modifying to this considerable extent two features of the conditions of transfer which would have tended to create dissatisfaction within the new Service.

The Association and the Colonial Office

In another part of this issue there will be found copies of the correspondence which has passed between the Colonial Office and the Association in regard to the post of Adviser in Animal Health to the Secretary of State for the Colonies. This is not the first effort which has been made in this connection and, like the others, it has been unsuccessful. We were first assured that a successor to the late R. E. Montgomery could not be appointed because of the financial position then existing. This was during the period of world depression. Whilst regretting the decision, we had to admit the force of the argument used. When times became more prosperous, and no appointment was made, we again took up the matter. On that occasion (October, 1936) the reason given was that the volume of work was not considered sufficient to justify the revival of the post. Last year we felt justified in again raising the question of an appointment, which we believe to be of the most vital importance. We requested an interview and Lord de la Warr, then Under-Secretary of State, received a deputation on May 24th, 1937. Later, we received the letter of June 30th giving a résumé of what occurred. We were astounded to find that, as we understood the letter, and there seemed ample justification for the view we took, there was no intention of re-creating the post. In our letter of October 6th, we drew attention to this and put forward arguments which we felt, and still feel, were justified and sound regarding the work which can be undertaken by an Adviser in Animal Health. The arguments remained unanswered in the reply which does, however, state that the Secretary of State is still agreed in principle to the appointment.

This question of the amount of work is of great importance—incidentally it was never referred to until the economic situation improved and the first reason for delay was removed. We consider that the question we put regarding the Agricultural Adviser was a fair one. We wish to make it plain that we have no intention of criticising that officer. We do not know the extent of his duties and, therefore, cannot criticise even if we desired to do so. We still cannot understand, however, why a Standing Committee is sufficient to deal with veterinary matters whilst a similar committee and *two advisers*, are required for the agricultural side. A similar organisation was recommended by

the Lovat Committee for both. We must presume that the amount of agricultural work has so increased that the further appointment has become essential. Has the amount of work so diminished, in regard to veterinary matters, that it can all be carried out by a committee? If so, for some years it must have been practically nil, for the committee was almost moribund until some twelve months ago, since when it has been called regularly. We are bound to state that we are entirely unconvinced that this committee, useful as it would undoubtedly be to an Adviser, can adequately advise the Secretary of State regarding matters connected with all branches of the livestock industry in our Colonies, or can maintain liaison between, and co-ordinate the efforts of, officers in all parts of the world. Amongst its members this committee has only one who has experience of veterinary administrative work in a Colony. Another member was formerly a research worker in a Dominion. The remaining veterinary members are connected with work at home. Useful as their opinions must be, they must often have felt handicapped by lack of knowledge of local conditions.

We feel that no useful purpose will be served by continuing the correspondence at the moment. Our request for an interview with the Secretary of State himself has been refused and our arguments remain unanswered. The whole position, however, is such that we cannot refrain from doing everything which is legitimately possible to endeavour to obtain a more satisfactory result. Meanwhile, the Association has appointed a special Colonial Advisory Committee whose membership will include several individuals with intimate experience of the colonies. The Association will certainly receive further strength from this wise decision.

A larger number of "not advanced" cases was found during routine inspections than those reported by owners, *i.e.*, 51·92 per cent. and 37·03 per cent. respectively.

Approximately 69·5 per cent. of the tuberculous animals found on routine inspections were diagnosed on clinical evidence, the remaining 30·5 per cent. being diagnosed with the aid of microscopical or biological examination of pathological material.

No figures are given to show the number of samples of milk and sputa taken by the veterinary staff during routine inspections and examined for tubercle bacilli, nor the comparative incidence of diseases in designated and non-designated herds.

REPORT

Staffordshire County Council

REPORT OF THE CHIEF VETERINARY OFFICER, FOR THE YEAR 1936

The annual report of the Chief Veterinary Officer of Staffordshire, Mr. F. A. Davidson, B.Sc., M.R.C.V.S., is embodied in that of the County Medical Officer of Health and deals with work done under the Milk and Dairies Acts and Orders, milk in schools scheme, and the Tuberculosis Order of 1925. It would have been of additional interest if information regarding the incidence in the county of other scheduled diseases had been given.

The whole-time staff consists of a chief veterinary officer, eight assistant veterinary officers, two sampling officers and four clerks. There were on December 31st, 1936, 5,790 dairy herds with a cow population of 103,454 cows, an average of 17·9 cows per herd. During the year 8,697 routine inspections of dairy herds were made and 167,472 cows examined, when 1,013 animals were slaughtered under the Tuberculosis Order. On *post-mortem* examination it was found that 486 were "advanced," 526 "not advanced," and one "not affected," while 441 of the cows were found to have tuberculous lesions in the udder. In addition 17 animals were reported to separate local authorities as coming within the scope of the Order and twelve affected animals had been sold for slaughter or died before the results of the milk sample examinations were known.

The practice of group bulk sampling has been extended, according to the number of guinea-pigs available, with a view to detecting the estimated 21 per cent. of tuberculous udders which are in a pre-clinical stage and not diagnosed on clinical examination.

Under Section 4 of the Milk and Dairies (Consolidation) Act, 1915, 237 reports were received of the presence of tubercle bacilli in milk produced in the county. Of these reports 122 were learnt through samples being taken within the county by the veterinary staff, sampling officers and sanitary inspectors, and 115 through samples being taken outside the county. Following these reports, 242 herds were visited and 6,521 cows examined, when 239 cows were slaughtered, four reported to other local authorities and six sold for slaughter or died. In 84 "Section 4" investigations no cows were slaughtered but, except in 17 cases, a possible source of infection was traced. Nine reports of the presence of tubercle bacilli

in milk were also received in respect of bulked milk from approximately 477 herds.

The reports mention the effects of the rather widespread mineral deficiences and continued prevalence of mastitis, abortion, Johne's disease and sterility in the county.

There were 2,454 herds licensed to produce "accredited" milk, an increase of 821 during the year, and of the 5,177 samples of milk taken to judge cleanliness 3,829, or 74 per cent., were satisfactory. A table is given showing the comparative results of milk samples examined for bacterial count, coliform organisms and methylene blue reduction. A total of 2,000 "accredited" premises was examined and reported upon by the veterinary staff.

The number of "tuberculin tested" herds increased during 1936 by 13, making a total of 23 in the county.

The supply of milk to schools under the Milk Marketing Board's scheme is supervised by the Veterinary Department. There were 84 suppliers of "accredited," 21 of "pasteurized" and 28 undesignated milks, a total of 133 to 361 schools for 29,154 children. The milk is sampled at least once each term after delivery to the schools and the herds supplying "raw" milk also clinically examined during each term. The 370 samples taken at the schools by the Veterinary Department were submitted to bacteriological, biological and phosphatase examinations according to the supply. Of the 273 samples examined bacteriologically 70 did not reach the "accredited" standard. The clinical examination of herds supplying school milk revealed the presence of 32 cows subject to the Tuberculosis Order.

A summary of cases dealt with under the Tuberculosis Order of 1925 is given showing that 2,065 animals were condemned. On *post-mortem* examination of the animals slaughtered by the local authority they were classified into the following categories: tuberculosis of the udder, 899; giving tuberculous milk, one; tuberculous emaciation, 199; other forms of tuberculosis, 961, not affected, two. Two cows were slaughtered by owners and one died before removal to slaughterhouse. There were 1,112 "advanced" cases and 948 "not advanced," while the compensation paid was £10,788 15s. 0d. and salvage received £3,465 15s. 2d. The average compensation paid has increased from £4 16s. 7d. to £5 4s. 8d. per animal and the salvage received from £1 11s. 6d. to £1 13s. 8d. as compared to 1935. Of the animals condemned, 829 were reported by owners. Compared to 1935 figures there is an increase of 328 animals slaughtered, there being an increase of 178 cases of tuberculous mastitis and 210 of pulmonary tuberculosis with a decrease of 47 cases of tuberculous emaciation.

(*Concluded at foot of col. 1, preceding page.*)

THIRTEENTH INTERNATIONAL VETERINARY CONGRESS

Zürich-Interlaken, 1938

PRELIMINARY ANNOUNCEMENT

[Provisional List of Subjects and Reporters, and Arrangements]

We reproduce below information contained in a "preliminary announcement" relative to the proceedings at the Thirteenth International Veterinary Congress to be held (*i*) at the Federal Technical College, Zürich, Switzerland, from August 21st to 25th, 1938, and (*ii*) at Interlaken, from August 26th to 27th, 1938, under the patronage of Federal Councillor Hermann Obrecht, Head of the Department of Public Economy, Switzerland.

Considerations of space have necessitated the omission from this reproduction of certain sections of the announcement (*e.g.*, Objects and Organisation of the International Congresses, Lists of Members of the Permanent, National and other Committees), and those desirous of obtaining the announcement in full should make application to the General Secretary, Dr. E. Graeub, Seilerstrasse 23a, Bern, Switzerland. Dr. Graeub also will welcome early application for copies of the official programme of the Congress, which will be ready for distribution in the early spring.

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Agenda

PROVISIONAL LIST OF SUBJECTS AND REPORTERS

General Sessions

I.

1. *Veterinary education under modern requirements.*

Reporter:

Professor Dr. E. Leclainche, Director of the International Bureau of Epizoötics, Paris, France.

2. The Importance of the Veterinarian in Animal Husbandry and in the Production of Food Products of Animal Origin.

Reporter:

Professor Dr. V. Stang, Director of the Zoötechnical Institute, University of Berlin, Germany.

II.

General conditions in the origin and development of infectious diseases.

Reporters:

Professor Dr. W. Frei, Institute for Veterinary Pathology, University of Zürich, Switzerland.

Dr. P. J. Du Toit, Director of Veterinary Services, Department of Agriculture, Onderstepoort, Pretoria, Union of South Africa.

III.

Disturbances in animal reproduction.
Reporters:
Professor Dr. R. Götze, Director Obstetrical and Medical Clinic, Veterinary College, Hannover, Germany.
Professor Dr. N. Lagerlöf, Veterinary College, Stockholm, Sweden.

Sectional Meetings

Section I: Internal Medicine and Surgery

1. *Recent progresses in haematology of animal diseases.*
Reporters:
Captain J. R. Barker, M.R.C.V.S., D.V.H., St. Peter Square, Hereford, England.
Professor Dr. A. Hjärre, Veterinary College, Stockholm, and
H. Berthelsen, Veterinary College, Stockholm, Sweden.
Professor Dr. D. Wirth, Professor of Veterinary Medicine, Veterinary College, Vienna, Austria.

2. *Recent researches regarding the influence of feeding on the development of diseases.*
Reporters:
Professor Dr. F. Zaribnicky, Veterinary College, Vienna, Austria.
Professor Dr. B. Carlström, Veterinary College, Stockholm, Sweden.
Dr. St. Angeloff, Director of the State Institute for Veterinary Bacteriology, Sofia, Bulgaria, and
Dr. Zw. Thomoff, Faculty of Veterinary Medicine, Sofia, Bulgaria.

3. *X-ray Diagnosis.*
Reporters:
Dr. A. Pommer, Lecturer and Director of the Institute for X-rays at the Medical Clinic, Veterinary College, Vienna, Austria.
Colonel Dr. J. Kulczycki, Lecturer Veterinary Faculty, University of Warsaw, Poland.
Dr. Gerry B. Schnelle, Angel Memorial Animal Hospital, Boston, Mass., U.S.A.

4. *The present status of anaesthesia.*
Reporters:
Professor Dr. A. Klarenbeek, University of Utrecht, Utrecht, Netherlands, and
Professor Dr. J. H. Hartog, Director of the Veterinary Clinic for Internal Diseases, University of Utrecht, Netherlands.
Professor J. G. Wright, F.R.C.V.S., Royal Veterinary College, Camden Town, London, England.
Dr. F. Benesch, Professor of Obstetrics, Veterinary College, Vienna, Austria.
Captain Dr. Shunsei Kimata, Military Attaché, Japanese Embassy, Berlin.

Section II: Infectious Diseases

1 *The value of tuberculin testing in the control of tuberculosis.*
Reporters:
Dr. J. R. Mohler, Chief of the Bureau of Animal Industry, Department of Agriculture, Washington, D.C., U.S.A.
Dr. N. Plum, Chief State Veterinary-Serological Laboratory, Copenhagen, Denmark.
Dr. H. Zeller, Ministerial Councillor, State Department of Health, Berlin-Dahlem, Germany.
R. E. Glover, M.A., B.Sc., F.R.C.V.S., Superintendent, Medical Research Council, Farm Laboratories, Mill Hill, London, England.
P. J. 't Hooft, State Veterinary Service, The Hague, Netherlands, and
Dr. A. H. Veenbaas, Veterinary Health Department of the Province of Friesland, Leeuwarden, Netherlands.
Professor Dr. G. Finzi, Dean of the Faculty of Veterinary Medicine, Milan, Italy.

2. *Aujeszky Disease (pseudorabies).*
Reporters:
Dr. Bailly, Pasteur Institute of Morocco, Tangier, Morocco.
Dr. I. Koeves, Lecturer, President of the Hungarian Veterinary Association, Budapest, Hungary.

3. *Swine Influenza.*
Reporters:
Dr. J. B. Scott, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, U.S.A.
Professor Dr. O. Waldmann, Insel Riems, Greifswald, Germany.
R. Willems, Director of the Laboratory of State Veterinary Inspection, Brussels-Cureghem, Belgium.

4. *Control of "Salmonellosis" in animals.*
Reporters:
Professor Dr. R. Manninger, Royal Hungarian Veterinary College, Budapest, Hungary.
Professor Dr. J. Verge, National Veterinary School of Alfort, Seine, France.
Professor Dr. H. Miessner, Director of the Hygienic Institute, Veterinary College of Hannover, Germany.
Dr. Seiichi Fujimura, Imperial Institute for Infectious Animal Diseases, Nishigahara, Tokyo, Japan.

Section III: Cattle Diseases

1. *Malignant Catarrhal fever and similar diseases.*
Reporters:
Dr. M. Rinjard, National Research Laboratory of the Alfort Veterinary Services, Alfort, Seine, France.
Dr. P. J. Du Toit, Director of Veterinary Services, Department of Agriculture and Forestry, Onderstepoort, Pretoria, Union of South Africa, and
Dr. R. A. Alexander, Veterinary Services, Department of Agriculture and Forestry, Onderstepoort, Pretoria, Union of S. Africa.
Professor Dr. E. Wyssman, Veterinary Faculty, University of Berne, Switzerland.

2. *Leukosis of cattle and other domestic animals.*
Reporters:
Professor Dr. Dobberstein, Veterinary Pathological Institute, University of Berlin, Germany, and
Professor Dr. O. Seifried, Director of the Veterinary Pathological Institute, University of Munich, Germany.

3. *Newer researches on specific infections of the reproductive organs of cattle.*
Reporters:
Professor P. Stazzi, Veterinary College, Milan, Italy.
Professor Dr. H. Holth, Director of the Royal Veterinary Institute, Oslo, Norway.
Professor Dr. L. Riedmüller, Institute for Veterinary Pathology, University of Zurich, Switzerland.

4. *Surgical demonstrations.*
Reporters:
Professor Dr. R. Götze, Director of the Clinic for Obstetrics, Veterinary College, Hannover, Germany.
T. H. Ferguson, Veterinarian, Lake Geneva, Wisconsin, U.S.A.
Moltzen-Nielsen, Chief Veterinary Surgeon, Hospital of Animals, Copenhagen, Denmark.

Section IV: Parasitology and Parasitic Diseases

1. *Parasites of wild animals.*
Reporters:
Professor M. Christiansen, Director of the Royal Veterinary and Serological Laboratory, Copenhagen, Denmark.
Professor Dr. A. Henry, National Veterinary School of Alfort, Seine, France.
Professor T. W. M. Cameron, Director Parasitological Institute, Macdonald College, McGill University, Montreal, Canada.

2. *The relation between parasitic diseases of man and animals.*
Reporters:
Dr. M. C. Hall, Chief, Division of Zoology, United States Public Health Service, Treasury Department, Washington, D.C., U.S.A.
Professor Dr. F. Král, Veterinary College, Brno, Czechoslovakia.

3. *Pasture hygiene with respect to parasitic diseases.*
Reporters:
Dr. H. O. Mönnig, Veterinary Services, Department of Agriculture and Forestry, Onderstepoort, Pretoria, Union of South Africa.
E. L. Taylor, M.V.Sc., M.R.C.V.S., D.V.H., Ministry of Agriculture and Fisheries, Veterinary Laboratory, Weybridge, England.
Dr. K. Kondic, Chief Veterinary Service, Ministry of Agriculture, Beograd, Yugoslavia.

4. *Immunity and immunity reactions in parasitic diseases.*
Reporters:
Professor Dr. A. Kotlán, Royal Hungarian Veterinary College, Budapest, Hungary.
Professor Dr. Miss Irene Maternowska, Head of the Laboratory, City Abattoirs, Warsaw, Poland.
Dr. F. Schoenaers, State School of Veterinary Medicine, Cureghem - Brussels, Belgium.

5. *New researches on some helminthic diseases of India.*
Reporter:
Captain S. C. A. Datta, B.Sc., M.R.C.V.S., Veterinary Research Officer, Muktesar-Kumaun, U.P. India.

Section V: Tropical Diseases

1. *Recent research regarding tropical and subtropical diseases.*
Reporters:
Dr. G. De Kock, Veterinary Services, Department of Agriculture and Forestry, Onderstepoort, Pretoria, Union of South Africa.
R. Daubney, M.Sc., M.R.C.V.S., Director of Veterinary Services, P.O., Kabete, Kenya Colony, East Africa.
Professor M. Carpano, Tirana, Albania.
Lieut.-Colonel R. A. Kelser, U.S. Army, Member, Army Med. Research Board, Ancon (Canal Zone), U.S.A.
Dr. A. Donatien, Chief of Laboratory, Pasteur Institute of Algeria, Algiers, and
F. Lestoquard, Pasteur Institute of Algeria, Algiers.
Dr. E. Dschunkowsky, Veterinarian, Beograd, Yugoslavia.

2. *Geographical distribution of tropical diseases.*
Reporter:
Dr. Curasson, General Inspector of Veterinary Services, Dakar, Senegal.

Section VI: Poultry Diseases

1. *Lymphomatosis.*

Reporters:

Professor T. Dalling, M.A., M.R.C.V.S., Director, Institute of Animal Pathology, Field Laboratories, Cambridge, England.

E. L. Stubbs, Professor of Veterinary Pathology, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, U.S.A.

Professor Dr. A. Braga, Institute of Animal Biology, Rio de Janeiro, Brazil.

2. *Blackhead.*

Reporters:

Professor P. Bardelli, Director of the Institute for Prophylaxis against Animal Infectious Diseases, Padua, Italy, and

Professor Menzani, Assistant of the Institute for Prophylaxis against Animal Infectious Diseases, Padua, Italy.

Professor Dr. R. Wetzel, Director of the Veterinary Parasitological and Zoological Institute, University of Berlin, Germany, and

Dr. Enigk, Assistant of the Veterinary Parasitological and Zoological Institute, University of Berlin, Germany.

3. *Coccidiosis.*

Reporter:

Professor Al. Vechiu, Faculty of Veterinary Medicine, University of Bucharest, Roumania.

4. *Psittacosis.*

Professor Dr. Fortner, State Department of Health, Berlin-Dahlem, Germany.

Dr. F. Gerlach, Director of the Federal Institute for Combating of Animal Diseases, Mödling, near Vienna, Austria.

Professor Dr. L. Panisset, Infectious Diseases Research Laboratory, National Veterinary School of Alfort, Seine, France.

Section VII: Zootechnics

1. *Growth and early maturity.*

Reporter:

Dr. G. H. Hart, University of California, College of Agriculture, Division of Animal Husbandry, Davis, California, U.S.A.

2. *Constitution of domestic animals from the anatomical, physiological and hygienic point of view and its relation to working capacity.*

Reporters:

Professor Dr. J. U. Duerst, Faculty of Veterinary Medicine, University of Berne, Switzerland.

Professor J. Jespersen, Royal Veterinary and Agricultural College, Coperhagen, Denmark.

Professor Dr. J. Becka, Veterinary College, Brno, Czechoslovakia.

3. *Influence of climate on the constitution, power of resistance and working capacity of domestic animals. Acclimatisation.*

Reporters:

Dr. N. Teodoreanu, Director of the Laboratory of Zoötechnical Researches, Faculty of Veterinary Medicine, Palas-Constantza, Roumania.

J. H. R. Bisschop, Veterinary Services, Department of Agriculture and Forestry, Onderstepoort, Pretoria, Union of South Africa.

Dr. F. Stencl, Lecturer at the Veterinary College, Brno, Czechoslovakia.

Professor Dr. E. Letard, National Veterinary School of Alfort, Seine, France.

4. *Law project on husbandry and herd hygiene for South American States on the Pacific Coast.*

Reporter:

Professor Dr. H. K. Sievers Wicke, Director of the Veterinary Research Institute, Ministry of Agriculture, Santiago, Chili.

5. *Artificial insemination.*

Reporters:

Professor Dr. Küst, Director of the Veterinary Ambulatory and Obstetrical Clinic, University of Giessen, Germany.

Professor Dr. T. Olbrycht, Director of the Zoötechnical Institute, Veterinary College, Lwów, Poland.

Section VIII: Meat Inspection and Milk Hygiene

1. *The inspection of tuberculous animals for slaughter.*

Reporters:

Professor Dr. Nieberle, Director of the Veterinary Pathological Institute, University of Leipzig, Germany.

Dr. M. Césari, Chief Veterinary Service, Pasteur Institute, Paris, France.

Professor Dr. C. F. Van Oyen, Veterinary Faculty, State University of Utrecht, Netherlands.

2. *Bacterial and non-bacterial, physical and chemical changes in meat.*

Reporters:

Professor E. Valenti, Director of the Bacteriological Laboratory, Milan, Italy.

Professor Dr. A. Trawinski, Veterinary College, Lwów, Poland.

3. *Estimate of the value of milk from an hygienic point of view.*

Reporters:

Professor L. Grassi, General Veterinary Inspector, Ministry of the Interior, Rome, Italy.

Professor H. C. Bendixen, Royal Veterinary and Agricultural College, Copenhagen, Denmark.

Dr. Ward Giltner, Dean of Veterinary Science, Michigan State College of Agriculture and Applied Science, East Lansing, Michigan, U.S.A.
Major Brennan DeVine, M.C., F.R.C.V.S., D.V.S.M., Chief Veterinary Officer, City of Birmingham Veterinary and Food Inspection Department, Birmingham, England.

4. *Modern methods of stunning slaughter-animals.*

Reporters:
Professor Dr. J. Roos, Director of the Institute for Veterinary Physiology, State University of Utrecht, Netherlands.
Professor Dr. O. Pecego, Veterinary College, Sao Paulo, Brazil.

SECTION IX: MILITARY VETERINARY ORGANISATION

1. *Protection against gas and therapy of gas injury of animals.*

Reporters:
Professor Dr. Magne, Agronomical Institute, Paris, France, and
Dr. D. Cordier, Lecturer at the National Veterinary Schools, France.
Professor Dr. Richters, Chief of the Veterinary Research Institute of the Army, Berlin, Germany.

2. *Prevention of animal diseases under war-time conditions.*

Reporters:
Colonel A. G. Todd, C.B.E., D.S.O., M.R.C.V.S., Fleet, Hants., England, and
Lieut.-Colonel J. J. M. Soutar, O.B.E., M.R.C.V.S., c/o Director-General, Army Veterinary Service, England.
Professor Dr. P. Perrucci, Colonel, Ex-Chief Army Veterinary Service, Taranto, Italy.
Lieut.-Colonel S. Barbosa, Chief Veterinary Service of the Army, Rio de Janeiro, Brazil.

SECTION X: VETERINARY PHYSIOLOGY

1. *Physiological fundamental principles for the feeding of domestic animals.*

Reporters:
Professor Dr. O. Wellmann, Royal Hungarian Veterinary College, Budapest, Hungary.
Professor Dr. B. Sjollema, Laboratory for Veterinary Chemistry, State University of Utrecht, Netherlands.
J. I. Quin, Veterinary Services, Department of Agriculture and Forestry, Onderstepoort, Pretoria, Union of South Africa.

2. *Physiology of the udder.*

Reporters:
Professor Dr. H. Simonnet, National Veterinary School of Alfort, Seine, France.
Dr. J. Grim, Ostrov, Czechoslovakia, and
Professor Dr. T. Vacek, Veterinary College, Brno, Czechoslovakia.
Professor G. Nichita, Faculty of Veterinary Medicine, Bucharest, Roumania.

3. *Newer researches into the physiology of the first stomach of ruminants.*

Reporters:
A. F. Schalk, Professor of Veterinary Preventive Medicine, The Ohio State University, Columbus (Ohio), U.S.A.
Professor Dr. J. Wester, Veterinary Faculty, State University of Utrecht, Netherlands.
Dr. E. Sym, Veterinary Faculty, University of Warsaw, Poland.

4. *Newer researches into the physiology of heredity.*

Reporter:
Professor K. Eriksson, Zoötechnical Institute, Veterinary College, Stockholm, Sweden.

5. *Influence of gonadotropic hormones on the sexual apparatus of domestic animals.*

Reporter:
Professor Dr. F. C. Van der Kaay, Director of the Veterinary Obstetrical Clinic, State University of Utrecht, Netherlands.

Place of Meeting

The discussions of the Congress will take place in the *Eidgenössische Technische Hochschule* (E.T.H.) (Federal Technical College) *in Zurich* from Sunday, August 21st, to Thursday August 25th. The second part of the Congress will be held at Interlaken on August 26th and 27th.

The opening meeting is fixed for Sunday, August 21st, at 4 p.m., in the Auditorium Maximum of the E.T.H. Opening address by the President of the Congress, followed by brief addresses of welcome by the Administrative Authorities and by Delegates of the Foreign Governments.

More detailed information as to division of time in regard to the general and sectional meetings in Zurich from August 21st to 25th will be published in the official programme.

The removal of the Congress to Interlaken, where on August 26th and 27th, the second part of the programme will be carried out, will be on Friday, August 26th. From Interlaken, opportunity is offered for *shorter* excursions into the Bernese Oberland (Jungfraujoch, Mürren, Grindelwald, etc.). There begin also *several-day* excursions to the various districts of Switzerland interesting to tourists. Trips are contemplated to Zermatt (Gornergrat), to Lake Geneva (Montreux and Lausanne), to Geneva, to Central Switzerland (Lake Lucerne and Lucerne), to the Engadine (St. Moritz), to the Tessin (Lugano and Locarno), etc.

Should participation be sufficient, it is proposed, during the days from August 18th to

21st—even *before* the Congress begins—to organise excursions from Zurich for the members of the Congress.

On Wednesday, August 24th, there will be no meetings in the afternoon, as excursions in common will be taken in the vicinity of Zurich.

Particulars regarding the excursions will be given in the *Official Programme*.

Social Functions

ZURICH

Sunday, August 21st: Evening Reception in the University.

Tuesday, August 23rd: Official Banquet for the Members of the Congress.

Wednesday, August 24th: Afternoon: Excursions in the vicinity of Zurich.

INTERLAKEN

Friday, August 26th:

Afternoon: Welcome at the William Tell Open-Air Theatre.

Evening: Banquet for the Official Delegates.

Saturday, August 27th: Evening Entertainment at the Kursaal, Interlaken.

The Ladies' Committee will arrange special excursions and sight-seeing tours, in Zurich and environs, for the ladies of members during the days of the Congress.

The students of the Faculties of Veterinary Medicine of the Universities of Zurich and of Berne have appointed a committee to receive the students from foreign countries for the purpose of making their stay agreeable and of being helpful in every way possible.

The Congress members will be given a card entitling them to use the tramways of the town of Zurich free of charge. Free tickets to the Swiss National Museum and the Zoological Gardens of Zurich are also placed at the disposal of the members of the Congress. At Interlaken the members will have free admission to the Kursaal.

Exhibitions

An exhibition showing the development of veterinary medicine, especially as applied to Switzerland, will take place.

Furthermore, manufacturers of veterinary medicaments, apparatus and instruments, are given the opportunity of exhibiting their manufactures in a special room.

In addition, books published in the various countries along the line of veterinary medicine will be displayed.

Travelling Facilities

The agencies of the *American Express Co. Inc.* and of *Wagon-Lits‖Cook* will assist members of the Congress as to the journey and hotel accommodations. In addition to their offices in Zurich and Interlaken, these travel agents have representatives in every country. The branch offices of these firms will be in a position to give information regarding facilities of travel, hotel accommodation, etc.

The Swiss Federal Railways grant a reduction of 30 per cent. for the Congress members and their families, and the mountain railways in the Bernese Oberland a reduction up to 50 per cent.

Negotiations are in progress with the foreign railway companies for a reduction in fares. Further particulars will be announced in the official programme.

A special identity card (*see* application) entitling the holder to railway tickets at reduced rates, will be sent to the members of the Congress by the General Secretary of the Congress, after registration and payment of membership subscription. The tickets at reduced prices may be obtained at the above-mentioned travel offices upon presenting the card of identity. In some countries it is proposed to organise a collective journey for members of the Congress. Full particulars are to be had from the Secretaries of the National Committees.

In countries having stipulations concerning foreign bills, the National Committees are requested to obtain permission from the authoritative officials of their countries to be allowed to have the Congress subscriptions transferred directly, without any difficulties.

The National Committees are also requested to have the required securities guaranteed as early as possible for the Congress members.

Membership Subscriptions

Membership subscriptions are as follows:—

Ordinary members ...	...	30	Swiss francs*
Extraordinary members:			
Other than students	...	30	,, ,,
Veterinary students	...	15	,, ,,

*The present rate of exchange is £1 = 21·60 Swiss francs.

The Congress members, if they so desire, can obtain one or more tickets for ladies or other family members, on payment of a fee of 5 frs. each. These tickets entitle the holders to participation in the above-mentioned festivities and functions.

The printed reports—Congress Manual—will be published in time so that they can be sent to the members of the Congress before the beginning of the Congress. For the over-seas members of the Congress, the Congress Manual

and the other Congress papers will be kept in Zurich (Eidg. Technische Hochschule), unless the General Secretary has received other directions.

The *Congress Report* will be forwarded to the members at the beginning of 1939.

Application for Membership

Applications for membership are to be made to the General Secretary (Seilerstr. 23a, Berne) after publication of the official programme.

The Membership Subscription is to be sent at the same time as the form of application, and is to be remitted in Swiss money to the Schweizerische Kreditanstalt in Zurich (account International Veterinary Congress). The payment can be made by cheque, postal order or postal cheque (P.O. Cheque Account, Schweizerische Kreditanstalt, Zurich, No. VIII/500). Kindly write in legible letters (printed letters) and join visiting card.

In countries in which a collective journey is being organised, applications and payment of membership subscriptions may be made to the Secretary of the National Committee who will pass them on to the General Secretary of the Congress and/or to the Schweizerische Kreditanstalt in Zurich.

Official Programme

The *official programme* will appear in spring, 1938. The exact date will be published in the veterinary periodicals and it may also be obtained from the National Committees.

Requests for a free copy of the definite programme are being received even now by the General Secretary (Dr. E. Graeub, Seilerstrasse 23a, Berne).

Enclosed within the official programme will be:

1. Forms of application for the Congress.
2. Forms of application for hotel accommodation.
3. Forms of application for the excursions.
4. Programme for excursions; illustrated prospectuses.

. . . . . .

The Secretary of the British National Committee is Lieut.-Colonel P. J. Simpson, F.R.C.V.S., c/o The National Veterinary Medical Association, 36, Gordon Square, London, W.C.1.

ROUTINE VETERINARY INSPECTION IN FOOT-AND-MOUTH AREAS

At a recent meeting of the West Riding Branch of the National Farmers' Union it was decided to ask the county authorities to discontinue routine inspection visits of county veterinary inspectors until outbreaks of foot-and-mouth disease had abated.

Mr. W. E. Potter, who raised the matter, said: "The county veterinary surgeons come round from farm to farm, mauling all our cows about. We ourselves are shut up, but we must let them come in. One was coming to my place yesterday, but I stopped it."

In this connection Mr. Hall Masheter, M.R.C.V.S., comments: "There should not be two opinions as to this. Mr. Potter, in my opinion was certainly right to raise the question, and his remarks, though somewhat crude, are perfectly logical. In a case of this sort the veterinary inspector should have advised his local authority that inspections should cease until the area was declared 'free'."

N.V.M.A. DIVISIONAL REPORT

Veterinary Medical Association of Ireland*

MEETING AT DUBLIN

The August (Horse Show) General Meeting of the Veterinary Medical Association of Ireland was held at the Veterinary College, Ballsbridge, Dublin, on Wednesday, August 4th, 1937, at 7.30 p.m., with Mr. J. J. Condon, Tipperary (Vice-President) in the Chair.

The following members were present: Messrs. J. J. Condon, F. Staples, W. E. MacDonald, J. E. Fitzgerald, Sean O'Donovan, E. W. Little, B.L., J. M. Crowe, J. D. Whitty, J. J. Lyons, F. S. Ringwood, R. J. Nolan, J. E. Kenny, Miss H. Bisset, Professor J. A. Nicholson, Professor W. Kearney, Messrs. L. M. Magee, P. E. Mullaney, J. F. Timoney, P. J. Howard, A. J. MacDonald, S. Conway, R. R. Pierse and J. M. Murphy, Hon. Secretary.

Apologies for non-attendance were received from Professor T. G. Browne, Messrs. P. F. Dolan, J. Campbell, P. A. McCorry and W. P. Cushnahan.

The minutes of the Spring Show General Meeting were read, confirmed and signed.

Question of Pensions for Part-Time Veterinary Officers

The correspondence included a letter from Mr. A. Keogh Nolan, Secretary of the General Council of County Councils, acknowledging receipt of the Hon. Secretary's letter of June 16th, relative to the question of pensions for part-time veterinary officers under the Diseases of Animals Acts, and stating that he would bring the matter before the next meeting of the General Council.

The Hon. Secretary informed the meeting, in this connection, that he had correspondence which showed that both Mayo and Sligo County Councils were favourably disposed towards making their part-time veterinary inspectors, under the Diseases of Animals Acts, pensionable, but that, so far as he knew, new legislation would be necessary to enable them to do so.

With regard to the resolution passed at the May General Meeting and forwarded to the Secretary of the General Council of County Councils, the General Council had not yet met and consequently he had no communication from that body.

After discussion it was decided to defer action until the matter had been dealt with by the General Council.

*Received for publication December 24th, 1937.

The Hon. Secretary then read the reports of the Council meetings held on July 9th, 1937, and July 16th, 1937.

Interesting Cases Met with in Practice

Messrs. P. J. Howard, Ennis; R. R. Pierse, Listowel; L. M. Magee, Dunboyne; J. J. Condon, Tipperary; J. M. Crowe, Edenderry; F. S. Ringwood, Enniscorthy, kindly presented some interesting cases met with in their practice. All these cases were very instructive.

The first cases in the series were presented by Mr. R. R. Pierse, on the following subjects: (1) Rupture of the prepubic tendon in the mare; (2) Chronic lead poisoning; (3) Haemorrhage from buccal mucosa. [These case reports are transferred to the Clinical Section of this issue. *Editor.*] The remaining cases were recounted as follows:—

Some Affections of the Mouth and Throat

Mr. P. J. Howard, Ennis, brought forward the following cases:—

(*a*) The subject of this case was a cow, seven to eight years old. It seemed to be a perfect specimen of a tuberculous animal: it was breathing heavily, had a large swelling at the throat, was coughing badly and he noticed a tiny particle of blood in the sputum. The eye was bright. He examined the cow carefully and satisfied himself that there was nothing wrong with the lungs. He afterwards made a careful *post-mortem* examination and found no trace of disease of any kind in either the chest or the abdominal cavity. In the soft palate, however, he found a hole which would admit the finger and it looked as if some foreign body had passed through it.

(*b*) The second case was that of a cow showing slight enlargement of the jaw; the owner said he thought there was something wrong with the mouth. On examining the mouth, Mr. Howard found that there was a growth on the roof and that several teeth were broken. The growth occupied the whole roof of the mouth and the owner, on being questioned, said that it was probably a year and a half since he first noticed something wrong. Mr. Howard removed most of the growth by means of a wire saw. A piece of growth weighing 3 lb. and containing two teeth was taken away. The cow made a good recovery, throve well and later was seen in good condition and in calf. Mr. Howard said that he was of the opinion that the condition arose originally from an injury to the jaw which broke the teeth.

Mr. L. M. Magee, Dunboyne, stated, with regard to snoring in cattle, that he had met with a case of a snoring bullock which the herdsman had blistered some time previously. He made a good examination with Butler's mouth gag and did not at first find anything. He then remembered that he had not examined the inside of the larynx and in doing so, found on the epiglottis a little tumour with a stalk and mushroom type head on it. The top of the tumour was the size of a halfpenny. He got a noose around the stalk and removed it. He had to put in a temporary tracheotomy tube and this gave him much trouble as he had to go through an inch thickness of oedema caused by the blister.

In two cases of snoring with which he had met he found that the condition was caused by a piece of stick which had gone up the nostril. He had several cases of snoring due to post-pharyngeal abscess which, when opened with the knife, resolved satisfactorily.

In examining another snoring bullock which he had been called upon to treat he found a piece of matted grass at the top of the tongue. The grass was matted around a hairpin which was stuck into the tongue. The bullock was the property of a woman and it always drank from a shallow well where the owner did some washing. Once he found a piece of slate stuck in a similar manner in the tongue.

He remembered another case of snoring due to tuberculosis of the turbinated bones and lately he had a case of snoring in which, after making a careful examination in every way, he failed to find any cause.

Mr. J. J. Condon, Tipperary, said that he occasionally met with large numbers of wart-like tumours on the roof and floor of the mouth. There was a great tendency to recurrence after removal. He considered these tumours to be of a malignant nature.

He then mentioned the following cases:—

(1) The subject was a seven-years-old milch cow, which had been dribbling and snoring for about two weeks and which, on the advice of a local chemist, had received an extensive course of iodide of potassium treatment. He was then called and found the cow in the last stages of emaciation and dying of inanition. In exploration of the throat by means of the mouth gag, he found a piece of hoop-iron deeply embedded at the base of the tongue and almost completely severing that organ. He extracted the hoop and the animal finally recovered.

(2) A two-years-old bull, which had been snoring and dribbling for one week, again had been treated with iodide of potassium on the advice of a chemist. He was called and on exploration of the throat by means of the mouth gag he discovered a needle embedded in the retro-pharyngeal region. He extracted it and the animal recovered. The history of this case was rather amusing. Two weeks previously the bull had scalded a foot severely. The owner was treating this condition with applications of tar and he covered the foot with a portion of a canvas bag which he stitched above the fetlock. On one occasion the bull became

restive during the process of stitching and escaped from the owner, carrying the needle and thread in the bag. Apparently the bull, in his attempts to get rid of the foot-covering, must have swallowed the needle. On extraction of the needle the owner loudly exclaimed, "That is the needle I lost."

Fracture of the Tibia

Mr. J. M. Crowe, Edenderry, reported a recent case of fracture of the tibia in a heavy draught mare. The bone was fractured at the junction of the middle and upper thirds. He had her moved into a house, got the bones into apposition and put the mare into slings. Up to the present she had been three weeks in slings, appeared to be doing well and he was hoping for the best.

Mr. Condon mentioned the following cases of the same condition, saying that he had two cases in the same week during 1918. One case in a horse about 15·2 hands high, was a simple fracture of the metatarsus. He applied a bandage of black and Burgundy pitch and splints and the animal made a complete recovery. The same treatment was applied in a case of fracture at the tarso-metatarsal joint and in the course of time the animal completely recovered.

In a two-years-old Hereford bullock, with a fracture at the upper end of the tibia, a pitch bandage which was continued over the loins was applied. There was great difficulty in maintaining the bandage in this neighbourhood. There was no deformity evident and no lameness in the course of a few months.

All these fractures were simple fractures with displacement.

He was of the opinion that the humane killer was employed far too frequently in many of these cases.

Aneurysm

Mr. Condon cited a further case in which he was called to see a six-years-old cart horse. He stated that the symptoms were as follows—severe epistaxis, swelling and tenderness in the right temporal region, difficulty in deglutition, head hanging, temperature 101° F., hurried respirations and paraplegia of the lower lip. The horse was perfectly healthy until these symptoms appeared and the owner suspected foul play; he had administered 20 c.c. of ergotin hypodermically, and haemorrhage ceased but recurred again in a couple of days, when more ergotin was administered. A week later very severe haemorrhage took place and on the occasion of Mr. Condon's visit he found that the horse had just died. He made a general *post-mortem* and found no evidence of disease. He then sent the head to the Veterinary College of Ireland, Dublin, and received the following report from Professor Kearney. "Aneurysm of the internal maxillary artery which ruptured—blood passed down Eustachian tube into pharynx. The pain in the temporal region was apparently due to tension in the guttural pouch."

Milk Fever

Mr. F. S. Ringwood, Enniscorthy, in speaking of milk fever, said that in some of his cases the animal did not respond to inflation of the udder but subsequently got on her feet when the calcium treatment was used and in other cases the animal did not respond to the calcium treatment but recovered when the udder was inflated.

With regard to tetany in mares, he had come across three cases. The animals were in the standing position and moved the hind legs without flexing the hocks. When the calcium treatment was applied, he found that milk was dropping from the teats in 15 minutes and the animals got right in one hour. All the three cases had been brought about by exertion and the condition might have been due to the mares being left too long without being suckled.

J. M. Murphy, *Hon. Secretary.*

In Parliament

DOCKING OF HORSES (PROHIBITION) BILL

Second Reading by the Lords

In the House of Lords on February 1st, Lord Merthyr moved the second reading of the Docking and Nicking of Horses (Prohibition) Bill. He said that the first clause prohibited this operation, but the second clause enabled it to be performed in certain circumstances because of disease or injury to the tail of the horse. The third clause provided appropriate penalties and the fourth prohibited the importation of docked horses.

Representations had been made to him that the fourth clause would operate unfairly towards importing interests from the Continent, and he undertook, if the Bill received a second reading, to move an amendment to provide that the clause should not come into operation until six years after the rest of the Act.

Docking was more or less a fashion; it was demanded by those who wanted to show horses, but perhaps some of those who showed young horses did not give enough thought to what was to happen to the docked horses in later years when they were turned out to grass, when they suffered cruelly from the absence of tails. The horses could not rest or feed properly. He had heard of no argument for nicking horses and it seemed plain that the operation was cruel. Even if it were very little practised in this country, no harm would be done by prohibiting it.

Mutilation could not be an aid to beauty. A large number of well known painters and sculptors supported the Bill. He was not sure, but he understood that in the Coronation procession there were no docked horses. Docking in the Army was forbidden by King's Regulations; there were very few, if any, such horses in the Metropolitan Police; many owners, trainers, jockeys and riding schools, favoured the Bill, which was supported by the National Veterinary

Medical Association.* Three out of the four railway companies had no objection to buying undocked horses.

Oversea it was regarded as an English fashion, and it was generally said that if stopped here it would be stopped almost everywhere. It was illegal in Germany, Norway, and parts of America; in Australia and India it was not practised. Arabs could not understand why we docked horses. The practice was a stigma upon this country.

REJECTION MOVED: "HARDSHIP" OF PROHIBITION

The EARL OF RADNOR, in moving the rejection, said that docking was in a great many cases a necessary operation, and its prohibition would be a hardship. In moving the rejection he had the support of the National Horse Association, a body of something like 1,200 individual subscribers, and some 160 organisations all interested in the horse. The National Farmers' Union and the Central Landowners' Association were opposed to the measure.

The users of draught horses were not concerned with fashion but with practical considerations. They were not inhumane and as a body they would not countenance docking were it not desirable from the point of view of safety.

There was also the question of hygiene. A long tail needed to be clean, but the cleaning of it meant a great deal of labour and was likely to be neglected. Such neglect would cause irritation to the tail and possibly some form of disease. If the Bill became law there would be no end to grandmotherly legislation of a similar nature with regard to other animals on which so-called mutilation was practised.

Lord BAYFORD said that even an undocked tail was not a very efficient protection against flies. Docking was not absolutely necessary but it provided a safeguard against a very considerable danger.

The EARL OF FEVERSHAM, Parliamentary Secretary, Ministry of Agriculture, said that the Government would not advise their lordships to vote one way or the other, but would leave the question of the second reading to the decision of the House.

"WORSHIP OF SHOW-RING STANDARDS"

Lord NOEL-BUXTON said that any number of good farmers were opposed to docking. The powerful motive in opposition to the Bill was that many persons were addicted to the worship of show-ring standards, which were strong and would die very hard; but these standards had been proved to have been extremely futile.

Who would deny that admiration of docked horses represented a taste that was absolutely distorted? They might admire a clipped poodle or a bull terrier with its ears cut, but their minds must be in a septic condition if they did so. (Laughter.) On grounds of humanity, utility and taste, the Bill would be in accordance with the mass of opinion in the House and in the country.

Lord BARNBY opposed the second reading.

The MARQUESS OF CREWE said that he would vote for the Bill.

The second reading was carried by 55 votes to 20—majority 35.

*The Association's decision to inform the promoters of the Bill that the measure has the support of the N.V.M.A. was taken when it was noted that the Bill allows for the surgical docking of the horse's tail, when certified as necessary by a veterinary surgeon.—*Editor.*

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Feb. 7th.—Meeting of the Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1, 4 p.m.

Feb. 8th.—Meeting of the South Wales Division, N.V.M.A., at Carmarthen, 3 p.m.

Feb. 10th.—Annual General Meeting of the Lincolnshire and District Division, N.V.M.A., at Grantham, 2.30 p.m.

Feb. 16th.—Annual General Meeting of the Lancashire Division, N.V.M.A., at Liverpool, 2.30 p.m.

Aug. 21st-25th.—Thirteenth International Veterinary Congress, Interlaken.

Sept. 5th-9th.—Annual Congress, N.V.M.A., at Glasgow.

Aug. 26th-27th.—Thirteenth International Veterinary Congress, Zürich.

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CENTRALISATION OF PUBLIC VETERINARY SERVICES

TRANSFER OF LOCAL AUTHORITY VETERINARY OFFICERS TO THE MINISTRY

Following upon consultation between representatives of the N.V.M.A. and those of the Ministry of Agriculture, we are glad to be able to inform our readers that, while the Ministry has had to maintain the right to charge a certification fee—the normal fee for entering into the Civil Service is £8 in the case of a veterinary inspector—in view of the circumstances of the transfer the following concessions have been made, as announced in the *London Gazette* of January 25th:—

	£ s. d.
Where the salary does not exceed £700 p.a., the certification fee will be	15 0
Where the salary is £700 p.a., but does not exceed £850, the certification fee will be ...	1 0 0
Where the salary exceeds £1,000, the certification fee will be	1 10 0

In regard to the medical examination, the Ministry has had to maintain the right in principle to require this also if considered desirable, but we understand that in practice sick leave records of transferred veterinary officers are being taken into account, and that up to the present the Civil Service Commissioners have not found it necessary to require

any of the men who have been invited to accept appointments as Superintending Inspectors to undergo a medical examination.

These instances, the Association is informed, may be taken as an indication of the manner in which the Ministry hope that things will continue to work out in connection with the transfer of veterinary officers, and we are assured that special consideration will be given to any cases of hardship.

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PERSONAL

Sir Arthur Olver's Impending Retirement

We understand that Colonel Sir Arthur Olver, C.B., C.M.G., F.R.C.V.S., is retiring, on May 7th, from the post of Animal Husbandry Expert to the Imperial Council of Agricultural Research, India, which he has occupied, with much distinction and benefit to agriculture in India, since its establishment seven years ago.

Mr. Frank Ware, C.I.E., F.R.C.V.S., Director of the Imperial Veterinary Research Institute, Muktesar, has been selected to relieve Sir Arthur Olver when he proceeds on leave preparatory to retirement.

We hope to publish an account of Sir Arthur's work in India, at a later date.

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R.C.V.S. OBITUARY

Crawford, John, Captain, of the British Bloodstock Agency, 26, Charing Cross Road, W.C.2. Graduated Glasgow, May 20th, 1898. Died February 1st, 1938; aged 60 years.

The Late Captain John Crawford

The bloodstock breeding and racing world has lost an outstanding figure in the death, in a motor accident in South Africa, of Captain John (universally known as Jock) Crawford, a director of the British Bloodstock Agency.

At the Agency's office in London on Tuesday last, two cablegrams were received simultaneously. One was from Captain Crawford, announcing his safe arrival at Capetown. The other told of his death in a motor accident on the Middelburg road, a few hours after he had landed.

Captain Crawford, who had no superior as a judge of the thoroughbred, had been a director of the B.B.A. since 1924. He was part owner of the Glasgow stud farm in Middlesex, and acted in England as agent for Sir Victor Sassoon, Mr. R. S. Clark and the Maharajah of Kashmir.

Born at Beith, in Ayrshire, Captain Crawford served in the South African War, and then spent 18 years in India, practising as a veterinary surgeon and officiating as judge for the Western India Turf Club.

Captain Crawford lived at Enfield, Middlesex, and widespread sympathy will be extended to his widow and 15-year-old son in their bereavement.

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Le Sueur, Adolphus, States Veterinary Officer, Beauvoir, Samarès, Jersey. Graduated London, May 17th, 1889. Died January 21st, 1938; aged 68 years.

The Late Mr. Le Sueur

A colleague writes: "Mr. Adolphus Le Sueur had been in practice at Jersey for nearly 50 years and by his death the Island loses a great son and the veterinary profession a loyal member who throughout his career had raised the local status and dignity of his profession to a very high standard.

"Mr. Le Sueur had occupied the position of Vice-President of the Royal Jersey Agricultural and Horticultural Society. He was an excellent judge of the Jersey and in that capacity often officiated in the show rings on the mainland. Last spring, at the invitation of the Union of South Africa Agricultural Society, he acted as judge of the Jersey classes at Bloemfontein.

"In 1930 he was appointed Jersey States Veterinary Officer—a part-time appointment which he held until the time of his death."

The *Jersey Evening Post*, recording Mr. Le Sueur's death with deep regret, speaks of him as being very popular with all classes of the community. We join with our contemporary in offering sincere sympathy to the widow (née Alexandre) and members of the bereaved family.

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Quirke, Thomas Francis, I.V.S., Director of Veterinary Services, Punjab, 9, Cooper Road, Lahore, India. Graduated Dublin, December 11th, 1912. [There will be published, in our next issue, an appreciation of the late Mr. Quirke's work in India.]

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FOOT-AND-MOUTH DISEASE: MENACE TO EUROPE

Foot-and-mouth disease threatens to sweep over the whole of Europe, the International Institute of Agriculture states in an announcement from Rome. "The epidemic," it is added, "will certainly have grave consequences for European and world trade, which are already feeling the influences of the drastic measures adopted, not only by the Governments of the infected countries, but also by other countries in Europe, under the menace of the extension of the disease. Such measures are in part responsible for a serious limitation in transport and in commerce alike."

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INDIAN SCIENCE CONGRESS: SIR FREDERICK HOBDAY HONOURED

As our readers will be aware, Sir Frederick Hobday, late Principal of the Royal Veterinary College, is on a visit to India as one of the delegates of the British Association for the Advancement of Science to the Silver Jubilee Congress of the Indian Science Congress Association recently held in Calcutta. Members of the profession will be gratified to learn that their distinguished colleague has had the honour of Honorary Life Membership conferred upon him by the Indian Association, this taking place upon the first day (January 3rd, 1938) of the session, when the Conference was opened by His Excellency the Viceroy (the Marquess of Linlithgow) in the grounds of the University College of Science, about 3,000 delegates and visitors attending.

The occasion was rendered particularly notable by three admirable speeches, the first by the Vice-Chancellor of Calcutta University, the second by the Viceroy, appealing to the scientists present to act as the medium through which India could make her contribution to world thought, and third by the President (Sir James Jeans) himself, who, quoting from the late Lord Rutherford's address, hoped that the natural aptitude for experimental and abstract science shown long ago would again mark the contributions of the Indian people and that in

the days to come India would again become a stronghold of science, not only as a form of intellectual activity, but as a means of furthering the progress of her people.

Among those participating in the procession of dignitaries which preceded the holding of the opening session was Colonel Sir Arthur Olver, F.R.C.V.S., of the Imperial Council of Agricultural Research. At a later stage in the session, His Excellency conferred the honour mentioned upon twelve of the most distinguished delegates, including the President (Sir James Jeans), Sir P. C. Ray, Sir Arthur Eddington and Sir Frederick Hobday.

On January 9th, 2,000 guests attended the garden party given at Government House, Calcutta, by His Excellency the Governor and Lady Brabourne, in honour of the members of the Indian Science Congress, when Sir Frederick was included amongst the company at His Excellency's table.

In the course of the Congress Sir Frederick read a paper on "The Inter-Relativity of the Diseases of Animals and Man" before the Agricultural Section, of which Colonel Sir Arthur Olver, C.B., C.M.G., D.S.O., F.R.C.V.S., was President, and at which (we are pleased to learn) a resolution was proposed and carried whereby in future there will be a veterinary section, to be called (as in the Royal Society of Medicine) the Section of Comparative Medicine—to the meetings of which veterinary surgeons (especially Ms.R.C.V.S.) in India will be invited. In this connection, Sir Frederick writes: "We had some 34 papers in our section and most excellent discussions. Quite a lot of my old students were present and men from Muktesar and other parts of India. It was a great success." Sir Frederick continues: "It has been a wonderful experience and has given me the opportunity to visit every veterinary college in India. They are very fine places—well planned out and equipped. It is a source of absolute amazement to me to think how dreadfully poor old London was allowed to drag behind for so long. There is not one college here of which I would not be very proud to be the Principal, and I have reason to hope that there will be obtained for them not only increase of staff but university status and at least one (if not two) years of added study so as to equal our M.R.C.V.S. standard, and that, later on, they may ask for the same reciprocity as is given to Australian and South African University graduates. Events will, I hope, move rapidly for them within the next few years."

Sir Arthur Olver, who addressed the Veterinary Research Section, prefaced his paper with a striking tribute to the life-long devotion of Sir Frederick Hobday to the interests of the veterinary profession. Sir Frederick's greatest achievement, he said, was the re-building of the Royal Veterinary College.

Sir Arthur deplored the paucity of veterinary practitioners in India, which left stock-owners entirely dependent on Government veterinary services for aid. The obvious step, therefore, was the establishment of suitable colleges or schools for the training of veterinarians.

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LEGAL NOTES

Admission Refused to Inspector.—At Devizes Police Court, on January 26th, Harry Oram, of New Farm, Marston, near Devizes, was fined £5 and one guinea costs, for refusing admission to an official of the Ministry of Agriculture and Fisheries who was making an inspection in connection with the foot-and-mouth disease regulations.

It was stated that Oram's premises were in the two-mile standstill area in force because of the prevalence of foot-and-mouth disease on a farm at Beechingstoke.

Mr. T. S. Barr, a veterinary inspector for the Ministry, said that on January 18th he visited defendant's farm. He told Oram who he was and said that he had come to inspect the live-stock. Oram said he would not allow him on the premises under any circumstances. Witness told Oram that he was what the Ministry called a "clean" inspector, meaning that he did not go to any premises where there was infection.

Oram still refused him admission and witness returned to Devizes and reported the matter to Sergeant Woodham. They went back to the farm together and Oram still refused them admission. Sergeant Woodham said Oram told them he was not going to let anyone bring the disease to his farm. "Oram and his wife," said the sergeant, "were definitely hostile to Mr. Barr."

Oram, on oath, said that ever since they were first told that they were in the two-mile area he and his wife had barred everybody from entering the farm. They even arranged with the baker, butcher, and so on, to sound their motor horns outside, and then they went out and fetched their goods, so that nobody had to call at the farm. His daughter worked at the Devizes Mental Hospital, and she had not been home for three weeks because if she went to and fro it must jeopardise the cattle at the Mental Hospital or the beasts on his farm.

He told the Ministry inspector that as he had been all round the district he was a "dangerous man." Mr. Barr said who he was, after he had been refused admission.

The Chairman told Oram that unlike the majority of Wiltshire farmers, instead of doing his best to help, he was acting the other way about. The Bench appreciated the care he took to prevent the spread of the disease, but he knew who Mr. Barr was and would not let him go on to the farm. That sort of thing could not be allowed to go on.

The Bench had to take a serious view of the matter: they hoped that if the same circumstances arose again, Oram would give every facility to the inspector.

. . . . .

Foot-and-Mouth Disease Notification.—At Epping Police Court, on Friday of last week, James Gray, of St. Lawrence Farm, Nazeing, was summoned for failing to notify the existence of foot-and-mouth disease.

Mr. Edgar P. Thorne, veterinary surgeon, and Ministry of Agriculture inspector, said he was called to inspect a heifer. He found it was infected, and at the same time examined 106 sheep, 97 of which had the disease. They were far advanced in the disease, which should have been discovered at least seven days previously.

In reply to Mr. John Flowers, K.C., defending, he said he removed a piece of dead tissue from a blister on the tongue. He denied that this was an act of cruelty. The inspector stated that the small piece of skin from the blister was sent to the Ministry to be "typed," so that it could be ascertained with what type of virus the animal was afflicted.

Mr. Flowers submitted for the defendant that the case had not been made out and was one that never should have been brought. Mr. Gray

had notified the existence of the disease in the heifer as soon as it was discovered, and he would have done the same if he had known the sheep were affected.

The Bench dismissed the summons, but fined Gray a total of £2 on four summonses for failing to keep the record of movement of animals. Four summonses for not keeping a record of animals moved by vehicle were dismissed.

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ARMY VETERINARY SERVICE

London Gazette—War Office—Regular Army

Jan. 28th.—Maj. I. Robertson retires on ret. pay (Jan. 27th).

Regular Army Reserve of Officers

Jan. 28th.—Maj. F. R. Roche-Kelly, having attained the age limit of liability to recall, ceases to belong to the Res. of Off. (Jan. 29th).

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SIR ROBERT GOWER ON R.S.P.C.A. CLINICS

Sir Robert Gower, Chairman of the Royal Society for the Prevention of Cruelty of Animals, opened, on January 22nd, the animal clinic which has been established in Abbey Street, Carlisle, for the treatment of sick and injured animals of poor persons.

The Mayor presided, and he was accompanied on the platform by the Mayoress, the Bishop of Carlisle and Mrs. Williams, Lady Graham, President of the branch; Sir Robert Gower, Miss Violet Watt (Hon. Secretary), Mr. A. Bonnin, member of the Council of the Society; Major Swinton Lee (regional organiser for the North; Mr. R. Craig Robinson, M.R.C.V.S.; Mr. W. W. Crichton (Hon. Treasurer), and Mr. Henry Lonsdale.

Praising the initiative of the local committee in establishing a clinic, Sir Robert said: "The Council of your Society regards this particular work as being of prime importance. It is our ambition that there shall be established in every centre in this country a clinic or dispensary where the sick and injured animals of poor people will receive the same skilled treatment, care and attention at the hands of qualified veterinary surgeons as do human beings through the medium of the general hospitals." They did not believe in amateurs or novices performing operations on animals.

During the last two or three years they had made great strides in connection with this clinic scheme, having opened 64 clinics. They were arranging to open another 20 within the next two or three months. He thanked most sincerely the National Veterinary Medical Association and the Royal College of Veterinary Surgeons for the great help and assistance they had given in this matter. They had co-opted on their Council Colonel P. J. Simpson, the President of the Royal College. So far as the Carlisle clinic was concerned, he would like to pay a public tribute to the assistance given by Mr. R. Craig Robinson, M.R.C.V.S. He had no doubt that this clinic, small as it was in its present premises, would do an immense amount of good work and he looked forward to the day when those premises would be too small for their activities.

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THE SHIRE HORSE

One of the exhibits at the Shire Horse Society's Show, to be held at the Royal Agricultural Hall, Islington, on February 22nd, and which has attracted a very satisfactory entry, will be a giant gelding of 19 hands, which has been entered from Herefordshire. The standard of height is from 16·1 to 17·3 hands.

"In these days of mechanisation it is noteworthy that the heavy horse continues to be popular with farmers," comments *The Times*, in this connection. "The 1937 census of horses on agricultural holdings compared with that of 1935 shows an increase of well over 12,000 foals and over 16,000 more unbroken horses of one year and over. Figures with regard to the licensing of stallions show that during the past decade there has been a sustained improvement in number and quality.

"Heavy stallions licensed under the Horse Breeding Act, 1918, in England and Wales numbered 1,856 for the 1937 service season—an increase of 81 on the previous year and the highest number recorded since 1924. Of this number no fewer that 1,233 were of the Shire breed, so that Shires remain twice as numerous as all the other heavy breeds combined. The number of Shire licenses has progressively increased in the last ten years from 720 to 1,233.

"There has been a remarkable growth of the heavy horse breeding scheme instituted by the Ministry of Agriculture since its renewal in 1924. The scheme had been withdrawn in 1922 during the financial crisis. The number of stallions under the scheme in 1924 was 87, and since then there has been a steady increase. In 1936 the figure was 193. Complete figures are not yet available for 1937, but it is known that the number of stallions increased to the record figure of 199. Of these 154 were Shires. Clydesdales and Suffolks, made up the remaining 45 in almost equal proportions.

"From the services of subsidised stallions in 1935 there resulted 9,734 foals. The percentage of foals to the total number of services was 57·4, while the foaling average for the Shire breed alone was slightly over 59·1 per cent. In 1936 the total of services was 18,778, or more than three times as many as in 1924.

"Interest in the work of the Shire Horse Society continues to increase. During the past year 215 new members were enrolled."

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The views expressed in letters addressed to the Editor represent the personal view of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

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CERTIFICATION FOR EXPORT PRIOR TO EXAMINATION: A WARNING

To the Editor of the Veterinary Record

Sir,—It has been brought to the notice of the Council of the Royal College of Veterinary Surgeons that practitioners in Liverpool have been requested to furnish a signed certificate in respect of the health of animals about to be exported from that port, before they have had an opportunity of examining the animals in question. The reason for this unusual request is said to be that the document must be in the hands of the Consular Officers at a given time, which does not permit of the examination being carried out until after the certificate has been given.

As it is contrary to the rules of the profession for any member to give a certificate unless and until he has himself carried out the examination in respect of which the certificate has been given, I have been instructed to remind all veterinary surgeons in the district of Liverpool of the importance in the public interest of this rule being strictly observed.

Any veterinary surgeon against whom it could be proved that he had given a certificate as to the health of animals before he had actually carried out a proper examination of the animals, would be liable to be called upon to show cause why his name should not be removed from the Register for unprofessional conduct.

Yours faithfully,

Fred Bullock,
Registrar.

Royal College of Veterinary Surgeons,
10, Red Lion Square,
London, W.C.1.
January 29th, 1938.

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BLOOD TESTING FOR ABORTUS INFECTION

A Simple Method of Collecting Samples of Blood

To the Editor of the Veterinary Record

Sir,—In my experience, the collection of blood samples from cattle can be a very tedious, difficult and "bloody" process and it is in the belief that there may be others who are having similar experience that I feel impelled to describe the method which I now adopt.

It is quite probable that the method is, in fact, a widely practised one but however that may be, the fact remains that I have had to "discover" it for myself and I hope that the publication of this note may save others having to make the same "discovery."

The method is as follows:—

Equipment.

Small numbered rubber corked glass tubes capable of holding some 5 c.c. of blood.

A 10 c.c. Record syringe, together with a supply of one-and-a-half inch medium-sized needles.

Length of rope carrying a loose ring and fitted at one end with a blunt hook, the point of which is turned over inwards.

Bucket of clean water.

Procedure.

Holding the ring in one hand, the end of the rope carrying the hook is dropped over the animal's neck, the ring is engaged in the hook and the jugular is raised in the usual manner.

The head is held turned towards the side opposite to that on which the sample is to be collected. It is not turned completely and no bulldogs are used.

When the vein has been raised the needle fitted on the syringe is pushed into the vein, and the sample is collected in the syringe. If the piston of the syringe is loose fitting the sample "collects itself."

The sample is transferred to one of the small tubes, the number of the tube and the number or name of the animal is noted and the syringe and needle washed out three times in water.

Any who may care to try the method will, I feel sure, be surprised at the speed at which samples can be collected.

W. J. Ironside.

Midland Agricultural College,
Sutton Bonington,
Loughborough.

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Erratum.—In the paper on "Foal Mortality" by Mr. W. W. Lang, published in our issue of January 22nd, on page 77, col. 2, para. 5, line 4, *for* "Dianimol ʒii" *read* "Dianimol ʒii."

Diseases of Animals Acts

SUMMARY OF RETURNS

Period.	Anthrax.		Foot-and-Mouth Disease.		Parasitic§ Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks confirmed.	Animals attacked.	Outbreaks confirmed.	Animals slaughtered as diseased or exposed to infection.	Outbreaks reported by the Local Authorities.	Animals attacked.	Outbreaks confirmed.	Outbreaks confirmed.	Swine slaughtered.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Period 1st to 15th January, 1938	51	51	32	4,707	8	12	31	16	11
Corresponding period in									
1937	29	33	1	59	8	8	36	49	17
1936	26	27	2	342	9	14	40	107	59
1935	18	19	1	80	15	22	46	63	24

Note.—The figures for the current year are approximate only.

§ Excluding outbreaks in Army Horses.